THE RAILWAY GAZETTE
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The Railway Times · Herapath's Railway Journal · RAILWAY RECORD.
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GOODS FOR EXPORT

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this paper should not be taken as indicating that they are available for export

NOTICE TO SUBSCRIBERS

Consequent on further paper rationing, new subscribers cannot be accepted until further notice. Any applications will be put on a waiting list which will be dealt with in rotation in replacement of subscribers who do not renew their subscriptions

POSTING "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE *possesses the necessary permit and facilities for such dispatch.*

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas

REDUCTION IN SIZE OF PAGE

To economise in paper our readers will observe a slight reduction in the size of THE RAILWAY GAZETTE *in that the size of the page has been reduced from 9 in. × 12 in. to 8½ in. × 11½ in. The type area of the page remains the same, namely, 7 in. × 10 in., but the surrounding margins have been reduced. This of course detracts from the appearance of the paper, but is one of the exigencies of the war*

TO CALLERS AND TELEPHONERS

Until further notice our office hours are:
Mondays to Fridays 9.30 a.m. till 5.30 p.m.
The office is closed on Saturdays

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

The New Ministry of Fuel

ON June 3, the Government announced its intention to establish a Ministry of Fuel, Light & Power, which will carry out its policy of re-organising the production of coal to meet the requirements of war. The Minister in charge of the department is to be Major Gwilym Lloyd George, who has been doing good work as Parliamentary Secretary to the Ministry of Food. The Government is taking over the entire responsibility for coal output from the mining industry and its individual management, and concentrating it in a Controller General in London, and in coalfield controllers. The controllers are to have very wide authority under the new Minister, and will be able to require concentration of production, the introduction of machinery, and the transfer of workpeople from one mine to another. So far details have not been made known of the measures which will be taken to compensate the collieries whose pits may be closed. Plans are also made for dealing with absenteeism in the industry, and wages. The new Ministry, like the old Ministry of Transport, is the development of departments of the Board of Trade, and there can be no doubt that, in view of the increasing importance of fuel in the national life, it will be better for that group of industries to be represented by a Minister who will be able to devote his whole attention to its needs and problems, and to speak on its behalf in the Cabinet.

Lord Askwith

The death took place on June 2, at the age of 81, of Lord Askwith, K.C., who was at one time famous as an arbitrator and conciliator in many trade disputes. He had a brilliant career at the Bar, specialising in arbitration cases, but gave up practice in 1907 on his appointment as Assistant Secretary in the Railway Department of the Board of Trade. In that capacity, as Mr. G. R. Askwith, he countersigned with Mr. Lloyd George (then President of the Board of Trade) the first conciliation and arbitration scheme agreed in November, 1907, between the railway companies and the railway unions. In 1909 he became Comptroller General in the Commercial, Labour, and Statistical Departments of the Board of Trade, and Chairman of the Fair Wages Advisory Committee; he retained the latter position until 1919. He was also made Chairman in 1911 of the Industrial Council. A two-days' railway strike in August, 1911, was brought to an end by an agreement to accept the proposals of the Government for the appointment of a Royal Commission to investigate and report on the working of the conciliation and arbitration scheme of 1907, and Mr. Askwith was among the signatories on behalf of the Government to this agreement. In December, 1911, as Chief Industrial Commissioner, he presided at a conference between representatives of the railway companies and the railway unions held to consider the best means of carrying into effect the new conciliation scheme presented in the report of the Royal Commission, and this conference also resulted in agreement. A K.C.B. was conferred on Mr. Askwith in 1911, and in 1919 he was raised to the peerage.

Design of Passenger Terminals

At the recent meeting of the American Railway Engineers' Association a report presented by a sub-committee on the modernisation of railway passenger terminals presented twenty tentative conclusions, of which certain are worth quotation. The aim throughout was that of making the passenger more comfortable, and in its realisation "nothing can do as much for a terminal as cleanliness and good housekeeping." All-over station roofs are a thing of the past, and umbrella, butterfly, or other modern types of shelter should when possible be substituted for the former when changes are being made. A closed-in concourse, warmed in winter, is desirable and is becoming general; it can be used as an adjunct to the waiting-room, for many passengers like to wait where they can see the trains if this is possible without discomfort. In the waiting rooms substitution of modern furnishings, lighting, and painting schemes transform the spartan accommodation of the past into pleasing rooms at a relatively small cost. Smoking rooms, which have often been used as a loafing place for undesirables, are best abolished. At the ticket offices it is recommended that where practicable the grilled windows should be replaced by open counters, as making for "a more friendly atmosphere," though the warning is added that protection of the money and ticket stock must not be overlooked. Particular attention should be given to directional signs, which must be conspicuously displayed and easy to read without being gaudy; and they should be repeated so that any passenger going the wrong way should be able to correct his mistake on seeing a second sign. Externally attention to buildings is desirable in order that they may be made to harmonise with their

location and with the prevailing type of architecture in the locality; stripping off of elaborate cornices and fussy ornamentation is often an advantage. Combination of railway and bus terminals where possible is regarded as an advantage.

A Peak in Rail Fissure Failures

Recent statistics of steel rail failures in the United States would appear to indicate that the peak in failures caused by transverse fissures is at length being reached. The total of rails removed from American tracks for this reason has been steadily mounting; and the figures for 1939 and 1940 respectively reached 19,588 and 19,785. This slowing down of the increase, practically to a stop, has taken place despite the increased efficiency and scope of the Sperry fissure detection operations, which located 13,823 fissures before failure in 1939 and 15,064 in 1940. Although fissures thus detected in time increased in number by 1,241, the number of rails which failed in service from this cause dropped by 1,044 from 5,765 to 4,721. This is a satisfactory trend, but it would be idle to minimise the fact that some of the undetected fissures are still being responsible for disastrous derailments, or that the cost of detection and the replacement of nearly 20,000 rails a year is a most unfruitful addition to the cost of track maintenance. However, on the credit side of the account it is worthy of record that, out of 3,863,370 tons of controlled-cooled rail laid in American tracks up to June 30, 1941, though a few fissure failures have occurred, all but two of these were due to conditions in the steel, such as piping (or gas inclusions), that no controlled cooling could cure, and this proves that the control of cooling is definitely solving the problem for the future. As to the past, and present, the climax in an unhappy chapter of American rail history seems to have been reached, but for many years to come detection and wholesale rail replacements must obviously continue in the interests of safety.

Overseas Railway Traffics

Among Argentine railways the traffic decrease of 91,600 pesos on the Central Argentine in the 47th week of the financial year is balanced by an increase of the same amount in the 48th week. For the corresponding weeks a year ago this company reported an increase of 515,250 pesos. The moderate increases now shown in the two weeks by three other principal companies, namely, 72,000 pesos by the Buenos Ayres & Pacific, 193,000 pesos by the Buenos Ayres Great Southern, and 7,000 pesos by the Buenos Ayres Western, compare with the fortnight's increases of a year ago of 580,000 pesos, 812,000 pesos, and 603,000 pesos, respectively. On the Argentine North Eastern and the Entre Rios the respective increases of 81,300 pesos and 111,000 pesos contrast with decreases in a fortnight of 1941 when traffics were still affected by floods. Leopoldina Railway traffics for the first 22 weeks of 1942 show an improvement of £127,325, and the 48 weeks' earnings of the United Railways of the Havana are £352,204 up.

	No. of week	Weekly traffics	Inc. or decrease	Aggregate traffic	Inc. or decrease
Buenos Ayres & Pacific* ...	48th	1,575	+ 37	70,171	+ 1,208
Buenos Ayres Great Southern*	48th	2,348	+ 99	117,311	+ 10,238
Buenos Ayres Western* ...	48th	962	+ 4	41,261	+ 3,373
Central Argentine* ...	48th	1,924	+ 92	84,341	+ 5,473
		£	£	£	£
Canadian Pacific	22nd	1,337,800	+ 25,000	19,957,800	+ 3,689,000

* Traffic returns in thousands of pesos

Aggregate gross earnings of the Canadian Pacific Railway for the first four months of 1942 amounted to £15,653,400, an increase of £3,240,000, and the aggregate net earnings of £2,708,000 show an improvement of £374,000 for the same period.

Blacked-Out Windows Contribute to a Blunder

A summary of Colonel Trench's report on the collision at Cowlairs East Junction, L.N.E.R., on January 30, 1942, appears at page 659. Save for conflicting evidence about whistling and the time the light engine had been standing, the facts were never in dispute. The signalman did not exactly forget the engine, which was waiting outside his box, but overlooked it, having jumped to a wrong conclusion that it had not moved in response to his lowering of a siding outlet signal, on which he re-set the road and accepted the colliding express. His windows were painted over, except for four oblong observation spaces, and from where he stood he saw another engine still in the siding. He momentarily mistook this for the one waiting, which had come out unobserved. Alarmed by shouting, he discovered his blunder too late and unfortunately the men on the express had practically no view of the obstruction. Both drivers lost their lives. Painted blackouts, which perforce had to be resorted to at first, are decidedly unsatisfactory for signal boxes and we are very lucky not to have much more harm from them. They are gradually being replaced by removable arrangements and the report recommends that this work be pressed forward. Apart from other considerations, the men's health will be improved by getting rid of the gloom and constant working in a subdued light which a painted blackout necessitates.

Rule 55 Once More in Question

Those familiar with traffic working know how frequently Rule 55 figures in the various signalling irregularities which result in no accident, or only in such trifling mishaps as do not need the formality of a published report. The wording of the rule is quite plain, but circumstances sometimes combine to create a considerable temptation to depart from its strict letter. The time-honoured excuse that the signal was expected to come off at any moment still does duty, and in certain shunting movements it is easy to see how strongly this thought must occasionally influence a man. Under such conditions a couple of minutes soon slips away, but not often in such a brief space does a mistake get made in the way it did in this instance, where the sight of the second engine at the dead-end played a peculiarly unfortunate part. It is true that the driver said he whistled, but there appears to have been no confirmation of this. Although the fireman may have been thinking wrongly of the three minutes grace allowed—except on the L.M.S.R.—to running movements, the nature of the particular movement which his engine was engaged in makes us feel very doubtful whether he really would have acted differently had he not been under such an impression, for neither he nor his driver can have been expecting any real delay in being passed through the crossover, or thinking that they were in the least risk of being overlooked. Nothing could have been further from their thoughts than the misapprehension to which the state of the signal box windows contributed.

Locomotive Maintenance in Wartime

When all the difficulties associated with the wartime maintenance of locomotives have been taken into account, there is much on which the British railway companies may justifiably be congratulated. Daily observations by those competent to judge confirm this, and show that locomotive failures, causing delay and inconvenience in operating the traffic, have increased only slightly, if at all, despite the fact that the engines are worked very hard and must of necessity be allocated not infrequently to tasks for which, ordinarily, they would not be considered suitable. Depleted staffs in the workshops, and at the depots, shortage of materials and parts, and problems attending the upkeep and repair of extensive machine tool installations, all combine to render the tasks of the mechanical and running departments much more difficult than in peacetime. Yet the locomotive stocks on the railways are, generally, being kept up to form with sufficient thoroughness to permit of regular and much intensified workings being adequately and continuously performed. It is safe to say that a very different state of affairs exists in enemy and occupied countries; so far as may be judged from the scanty neutral evidence now forthcoming, there is a considerable falling off not only in locomotive upkeep, but in the condition of the permanent way and so on, largely due to difficulties associated with maintenance and repair.

Going to School for Pleasure

Schooldays would be happy days indeed if the scheme of education in railway transport subjects devised by the Association of American Railroads could be adopted in its entirety. Unfortunately, there are other, if less interesting, subjects which must be studied at school, and how much of the suggested syllabus could be worked through in the time available is doubtful. Nevertheless, an interest in railway affairs promoted by education might well lead to increased railway support; and it is important that the part played by railways in economic and social development should be appreciated. In our July 25, 1941, issue, it was recorded how a schools superintendent requested the Illinois Central Railroad to prepare a booklet for school use which proved so popular that 175,000 copies were printed, and the idea appears to be spreading, for a wider demand has caused the Association of American Railroads to produce a teacher's manual, containing a syllabus and useful information, together with a set of photographs, and a most readable book for pupils entitled "The Stories behind the Pictures"; and the use of these should do much to develop an appreciation of America's debt to the railway industry.

Rail Corrugation

ONE of the most baffling problems to the permanent way engineer for long past has been the corrugation of rails, and the trouble is one which shows a tendency progressively to increase with intensified traffic conditions. Briefly described, it is the development, on the running surface of the rails, of minute undulations, of which the difference in height between crest and hollow often does not exceed 0·01 in., but which in time may become such a nuisance, especially on electrified lines, as to necessitate grinding the top surface of the rail to level, with consequent wastage of steel and expenditure on grinding plant and labour. Many causes of corrugation have been suggested, and of these the most recent, referred to editorially at page 606 of the December 12, 1941, issue of THE RAILWAY GAZETTE, is synchronous vibration set up by both wheels and rails in their contact surfaces, where the form of the rolling stock and of the track structure is such as to produce the same frequency of vibration at a certain speed. This view was advanced by Mr. H. H. Morgan in a contribution to our American contemporary, the *Railway Age*, and the theories there set out and the remedies proposed deserve more detailed consideration. The worst corrugation is found on lines carrying a frequent service of trains of uniform composition at constant speeds, and the author suggested that higher speeds intensify the trouble, for the frequency of vibration is thereby increased, and with the more rapid application of the overloads imposed by the vibration, the intensity of the corrugation-producing stresses is higher. The remedy suggested for this condition, where corrugation is worst, is an adjustment of the speeds normally run over the section of line concerned, in order that synchronisation may no longer be continuous or persistent—that is, to set up a condition in which the corrugation of the rails will be " ironed out " as soon as it appears. Possibly, however, the same result might be obtained without interference with train schedules by re-spacing the sleepers over the affected length.

Another remedy proposed is that of increasing the yield strength of the steel in order to add to its resistance to deformation. In this connection the author of the article makes certain statements which are highly controversial. Claiming that the highest possible yield strength has been reached with straight carbon steels made to the standard American Railway Engineers Association composition, in their as-rolled condition, he asserts that the substitution of full alloy steels is impossible on economic grounds; that semi-alloy steels, such as medium manganese, have not been " satisfactory " in the U.S.A.; and that " attempts have also been made to heat-treat the full lengths of rolled rails, but so far this method has proved impractical commercially." The argument, it will be noted, is not that such steels fail to reduce corrugation, but that their use is uneconomic or that their production is not a practical manufacturing proposition. Our view, however, is that the medium manganese rail has failed in North America partly because of the excessively high percentages of carbon with which the manganese has been associated, and partly because of the heavy price supplement levied for the additional manganese content. Further, to claim that the heat-treatment of full lengths of rail is " impractical commercially " is a remarkable statement in view of the successful and increasing application of the sorbitic process in Great Britain; here again the extremely high carbons in general use in America may have been a deterrent, on grounds of risk, though they have not held up the similar treatment of rail-ends to give increased resistance to batter. If, on the other hand, the author had claimed that alloy, semi-alloy, or heat-treated rails would not of necessity solve the corrugation problem, though in all probability they would help to do so, his proposition would have been more defensible.

Various other expedients for reducing corrugation were mentioned in the article. One is an increase, where possible, in the area of contact between the tyre and the rail-head, as, for example, by the use of a cylindrical, in place of a coned, tread for the tyres, which both tends to increase the contact area and also to reduce the hunting from side to side of the track of the bogies on their pivots. Some railways have increased the radius of curvature of the running surfaces of their rails, in order to secure flatter heads; but the benefit of such alterations in the profiles of rails and tyres has had its full effect only when both have been new. On certain tramways in the Pittsburgh area, corrugation was almost eliminated by a slight widening of the gauge, whereby the line of contact was moved nearer to the centre of the rail-heads; elsewhere alteration in the inclination of the rails has at times had a beneficial effect. Corrugation on curves, due in part to the fact that the wheel on the outer rail has to travel further than the wheel on the inner rail, and that slipping takes place in consequence, can be reduced to some extent by flange lubrication. Among contributory causes of corrugation not mentioned by the author is the application of brakes, the effects of which are obvious acoustically to the observant traveller at the approaches to stations; this is a condition which it would be difficult to alter. Another contributory cause, especially in damp tunnels or in locations adjacent to water-troughs, is the pitting of the running surface of rails by corrosion, which provides a starting-point for corrugation; here again it is difficult to suggest an efficacious remedy. The condition of rail-heads as received new from the rolling-mill is at times not without its influence on the development of corrugation, when the effect of the grooving of rolls, in order to obtain a better grip on the bloom in the earlier passes through the mill, has not been entirely taken out at the final pass, and has left the running surface of the rail in a faintly undulatory condition. The chances are, however, that unevenness so caused will disappear after a few weeks of service.

Cross-Channel Packets

DURING the years immediately before the outbreak of the war, the term packet as applied to the vessels which cross the narrow seas separating Great Britain from Ireland and the Continent had tended to fall into disuse. Recently, however, as vessels of this type have come into the news, it has been employed more extensively until, as confirming its general adoption, the Southern Railway chose the title *Channel Packet* for the first of a class of ten locomotives all named after shipping interests using the docks and harbours on the company's system. The channel packet, it is unnecessary to recall, played a very gallant and important part in the evacuation of the British and Allied forces from Dunkerque, and Major William Gregson, in his introductory remarks in the fourteenth Thomas Lowe Gray lecture to the Institution of Mechanical Engineers, referred to this undying episode and suggested that thus his subject, " The Propelling Machinery of Cross-Channel Packets," almost selected itself. After a brief historical survey, he showed how gradually the greater proportion of our regular cross-channel mail and passenger services came to be part of our great railway systems until at the end of 1939 our railway companies alone owned and operated over 200 craft to maintain their marine services. The generic title of " cross-channel packets " comprises those vessels which are designed especially for the regular mail and passenger services covered by the shorter routes of (say) 12 hours and under, and in 1939 some 80 vessels were classed under the heading of " channel packets," of which about 50 are owned and operated by our railways.

The lecturer enumerated no fewer than 15 cross-channel routes which were in operation in 1939 and the varying conditions, such as distance between terminals, harbour and entrance limitations, and so on, are all reflected in the general features of the design of craft employed on any particular service. Generally speaking, however, the cross-channel packet must be capable of a good turn of speed coupled with ready manœuvrability; moreover, she must be seaworthy and " sea-kindly "—to use the lecturer's very apt term—so that she can operate under all conditions of weather likely to be met with on a particular route. Finally, its machinery space must be limited in size and configuration by the extremely difficult requirements of fully meeting the demand for passenger accommodation. All these conditions

were admirably fulfilled by the paddle steamer which towards the close of the last century was being successfully employed on the bulk of the short-passage routes. The twin-screw ship driven by reciprocating engines was firmly established on the longer routes, particularly as most of these services provided deeper water conditions in their harbour approaches; but with the development of the high-speed reciprocator for the propulsion of naval vessels, it became possible to use the smaller propellers demanded for ships of lighter draught, and in a list of typical cross-channel packets in service *circa* 1900 giving particulars of 21 vessels on 16 different services, 11 are propelled by paddle wheels, and 10 by twin screws.

The further application of the reciprocating engine was halted by the introduction of the steam turbine, which from many points of view proved itself to be an ideal form of engine for the propulsion of high-speed shallow-draught vessels. It was in 1903 that the first turbine-driven channel packet was put into service and, as Major Gregson remarked, being successful, it entirely revolutionised channel packet machinery technique. This success was, no doubt, helped by the results of the comparative performance of two similar ships, one with reciprocators and the other turbines; the figures taken over a month's service running showing a 10 per cent. saving in favour of the latter vessel. Actually the saving on the engine side was 20 per cent., but the lower efficiency of the faster running screws discounted half this amount. Thus, designers were quick to welcome the advent of speed reduction gearing, which was first employed in 1911, and, save for the relatively small number of diesel-engine driven packets, the first of which appeared in 1929, it is the geared turbine which was generally employed at the outbreak of war. The introduction of the water-tube boiler, which also occurred in 1911, yielded a further reduction in weight as well as an increase in efficiency, as also did the use of oil fuel; but from the point of view of cost the use of coal is obviously indicated, and the mechanical stoker, first tried in 1932, has certainly yielded very impressive results. So much so that the most recent channel packet to be designed has stoker-fired water-tube boilers, although, as she was completed after the outbreak of war, she has not yet entered her predestined service. Major Gregson is to be congratulated on the wealth of data given with his lecture and, as the return of peace will find the cross-channel services denuded of many of their former packets, we may look forward when new tonnage is designed to further developments along the lines he indicated.

The Canadian National Railways

THE most successful financial year in the history of the Canadian National Railways was recorded in the annual report of the system for 1941, tabled in the House of Commons at Ottawa, on March 19, by the Transport Minister. Net revenue, after the payment of all operating expenses was $66,608,341, an increase of $21,600,929 over the previous year. The cash surplus of $4,016,000 remaining, after payment of taxes and interest, showed an improvement of no less than $21,000,000 over 1940. Operating revenues totalled $304,376,000, or 23 per cent. over those of the preceding year. The amount was approximately equal to that of 1928, and was more than double that of 1933. Freight revenue increased by $45,030,000, or 23 per cent., while passenger receipts were higher by $10,191,000. Operating expenses totalled $237,768,000, or 17·4 per cent. over the preceding year. The principal financial results are compared as follow :—

	1940 $	1941 $
Operating revenue ...	247,527,225	304,376,778
Operating expenses...	202,519,813	237,768,437
Net revenue	45,007,412	66,608,341
Other income and profit and loss requirements	11,532,969	12,247,025
Net available for interest	33,474,443	54,361,316
Interest on funded debt held by public	48,701,524	44,698,227
Interest on loans from Government	1,737,963	5,646,762
Cash surplus	(Dr.) 16,965,044	4,016,327
Operating ratio	81·82	78·12

Tonnage of freight transported was the largest in the history of the railway, being equivalent to 27,199,000,000 tons moved one mile, or 20 per cent. more than in the previous peak year of 1928, although freight revenue was only 5 per cent. greater. Similarly, although passenger traffic increased by 57 per cent., the increase in revenue was not proportionate because of the low fares for the armed forces and for workmen serving munition plants. The increased activity in rail transport was reflected in other accounts, such as mails, sleeping, and dining cars, etc. On the expenses side, the wartime cost-of-living bonus granted to employees from June 1, 1941, cost $6,108,000. The number of employees increased by 6,705, to 89,536. The operating ratio was 78 per cent., the lowest on record. Freight car serviceability during the year was the highest recorded, and the ratio of locomotives in serviceable condition was also the highest for several years. Due to the more intensive use of equipment, provision for depreciation has been increased to $13,591,000. Approximately $10,000,000 was expended on capital account for undertakings connected with defence measures. Equipment purchased or built during the year accounted for $6,751,629, and equipment retired for $3,135,137. The capital expenditure account also includes $3,011,781 for Montreal terminal development and $1,381,453 for centralised traffic control. The report records the retirement, on July 23, of Mr. S. J. Hungerford, as President of the Canadian National Railways, and the appointment of Mr. R. C. Vaughan to that post. Mr. Hungerford continues as Chairman of the Board of Directors.

LETTERS TO THE EDITOR

(*The Editor is not responsible for the opinions of correspondents*)

A, E, and HA Superheaters

The Superheater Co. Ltd.,
St. Margarets Road,
Bowdon, Altrincham, May 30

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—It would appear from replies received by me as the result of my letter in your issue of March 20, that the correct application of A and E types superheaters is not fully appreciated. For maximum sustained evaporation and superheat, boilers equipped with E type superheaters are much more efficient than similar ones with A type. This will be readily understood if comparison is made between these boilers revealing approximately 10 per cent. increase in heating surfaces of boiler and superheater for E type. Moreover, the steam area of the elements is greater while draught loss through the boiler tubes is not increased.

If, however, a locomotive is employed in service with an average cut off of, say, 25 per cent., as in England, there is usually ample boiler capacity with A type superheaters. But abroad, where it is customary to employ an average cut off of 45 per cent. or more, every pound of steam with high superheat is of utmost value. Nowhere is this better realised than in U.S.A. and Canada, where practically all recent locomotives have been built with E type superheaters and, an important feature, steam dryers.

The new 5-P-4 and HA type elements, which give similar improved results, were developed as the editorial in your issue of February 27 last aptly expresses, to obtain a superheating efficiency better than type A and approaching that of E without new tube plates and other alterations to the boiler.

Yours faithfully,

ERIC A. ROBINSON,
Managing Director

Queen Victoria's First Railway Journey

Lillycombe,
Porlock, Somerset
June 7

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I was startled by the date of the extract from *Herapath's Journal* printed on p. 629 of THE RAILWAY GAZETTE because it infers that Queen Victoria's first railway journey was made on Monday, June 6, 1842, whereas the hitherto accepted date was the 13th, as stated in my G.W. History, Vol. I, p. 660.

I cannot remember my authority at the moment but think it was *The Railway Times* which I quoted, and am confirmed in this by Acworth's *Railways of England*, p. 17 (1889 Edition). Was *The Railway Times* a week behind?

Yours sincerely,

E. T. MACDERMOT

[The issue of *Herapath's Railway Journal* should have read Saturday, June 18, 1842, which makes the date of the previous Monday June 13.—ED. *R.G.*]

The Scrap Heap

QUEEN VICTORIA'S FIRST RAILWAY TRIP

The extract from *Herapath's Railway Journal* relating to Queen Victoria's first railway trip, which was given in these columns last week, was from *Herapath's Railway Journal* of Saturday, June 18, 1842, and not from that of June 11. Thus the date of the journey was June 13, 1842.

* * *

Used razor blades collected by L.N.E.R. staffs have realised £30 9s. 4d. and a cheque for this amount has been sent to the Merchant Navy Comforts Service.

* * *

All the 209 L.M.S.R. camping coaches used in peacetime as holiday homes are now on war work. Some are Home Guard posts and guard rooms; others are naval or military posts.

* * *

The British railways are arranging to display 5,000 Ministry of Agriculture posters at stations throughout the country to call attention to the Colorado beetle and to assist in identifying this destructive pest.

* * *

At the end of April £124,337 had been contributed to the Red Cross Penny-a-Week Fund by some 350,000 staff of the main-line railways as follows:—G.W.R., £15,741; L.M.S.R., £52,801; L.N.E.R., £41,503; Southern Railway, £14,292.

* * *

CHEAP MEALS FOR THE FORCES

Since the outbreak of war, the British railways have provided members of the Forces with special meals at reduced prices. These average 23,000 a month, or 270,000 per annum. In addition, 736,000 cups of tea are served in a year.

* * *

OVERHEARD AT THE JUNCTION

Aunt, in letter to niece: "While waiting for my train this morning I fancy I heard a porter say to another that early that morning some tanks had gone through the station on crocodiles. Whatever will they do next—mount cannons on elephants, I expect."

* * *

SEEDS OF VICTORY

Members of the L.M.S.R. (Southern Division) Horticultural Society have purchased 148 tons of seed potatoes and 51 tons of fertilisers: orders for vegetable seeds totalled 1,068. It is estimated that the value of the crops raised, many of them on lineside allotments, will approximate £10,560.

* * *

JOURNEY TO CORNWALL

She: "I may be seeing you then one of these days at Paddington?"

He: "Yes, I'm going on the 'Cornish Riviera?'"

She: "Why so long a journey?"

He: "Oh! I want to get some of those new bonds that are issued at Par."—*From the "Great Western Railway Magazine."*

* * *

LINCOLN'S FIRST STATION

The first railway station in Lincoln, that of the North Midland Railway, now the site of the London Midland & Scottish Railway station, was opened in 1846, and it is stated there was high festival to commemorate the occasion and, as two trains left to journey to Nottingham—a matter of some two hours—the Cathedral bells were rung, bands played, cannon were fired, and thousands of people cheered enthusiastically.—*From "The London & North Eastern Railway Magazine."*

* * *

GUARD *v.* HIPPO

There are from time to time reminders that wild life is still to be encountered along the railway line. Recently a hippo charged a railway trolley passing over a viaduct on the Pungwe Flats, damaging the trolley and injuring a guard who was riding on it. It is not stated what happened to the hippo, though it is unlikely it got off scot-free.—*From the "South African Railways & Harbours Magazine."*

* * *

A novel stoppage of a railway train lately took place near Walsall in Staffordshire. It seems the parochial authorities had thought proper to assess the company, in respect of its road, towards the relief of the poor; but the company was not satisfied as to its liability, and demurred to the payment. In consequence, a warrant of distress was obtained from a magistrate, and the broker, with his assistants, stood in the road, with handkerchiefs in their hands, and intimated the absolute necessity of stopping the engine. The guard, ignorant of the cause, and conceiving it was an intimation of some impending danger, stopped the engine, and it was instantly seized for the disputed rate, and one of the carriages was ultimately left in pledge to meet the demand.—*From the "Railway Times," August* 4, 1838.

* * *

Goods Guard R. J. Towells, of Bristol (Temple Meads), whose train was caught in the first enemy air attack on Bath, in the course of a letter to the *Great Western Railway Magazine* recently, said: "One has to be on the spot in a case of this kind to realise how one moment may last incredibly longer than the one that has gone before. You will appreciate that it is nice to know where you are going. When we left Bristol it was Swindon, but when we were at Bath it seemed to be exceedingly doubtful."

* * *

Returning from London by the last train, Ernest Bear, aged 35, engineer, of Woodside-road, South Norwood, overslept and was carried past Woodside Station to Addiscombe. There he refused to pay the 2d. excess fare demanded or give his name and address. He was arrested. Charged at Croydon with wilfully travelling beyond the distance for which he had paid with intent to avoid payment of the extra fare, he argued that being asleep he could not have wilfully gone on. The Bench agreed that there was no intent to travel further and dismissed the case.

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OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

CANADA

Single Locomotive Runs between Montreal and Halifax

The longest single locomotive run in Eastern Canada, and one of the longest in the Dominion, has been inaugurated by the Canadian National Railways with the advent of through locomotive working, over the 841 miles between Montreal and Halifax, on the Ocean Limited, the Scotian, and the Maritime Express. The locomotives used are of the Northern Type, "6100" class, built for fast passenger and freight work. They have a tractive effort of 57,000 lb. and are counterbalanced for a speed of 85 m.p.h.; they will haul 20 coaches or more than 100 wagons. It is stated that only 14 locomotives will now be required for these services, against the 21 previously needed; the seven engines thereby released will be available for transporting essential war supplies to the Atlantic coast.

UNITED STATES

New Kansas City Bridge

A further stage has been reached in the proposal for a new joint access to Kansas City by the Chicago, Milwaukee, St. Paul & Pacific and Chicago, Rock Island & Pacific Railroads, involving 4½ miles of new track and a bridge over the Missouri River. Surveys are now complete, and the approval has been obtained of the United States District Court at Chicago. Sanction of the Interstate Commerce Commission is expected shortly, and work on the joint scheme, which is to be completed in 1943, and is estimated to cost $2,623,000, will then begin.

Further Pennsylvania Yard Schemes

Continuing its extensive programme of yard modernisation to meet the enormous growth of wartime traffic, the Pennsylvania Railroad has begun three further yard extensions. One, at an estimated cost of $200,000, is designed to increase the capacity of Southport classification yard, south of Williamsport, Pa., by 40 per cent., and necessitates the removal and rebuilding on a new site of a large wagon shop, over 20,000 cu. yd. of grading and filling, and 6½ miles of new tracks, as well as the rearrangement of certain existing lines. Coal handling facilities in the South Amboy district of New Jersey, immediately south of New York, will be increased by the construction of an additional nine-track yard at Old Bridge, involving 5 miles of new track and an expenditure of $390,000; this yard will have a capacity for 475 bogie coal wagons. At Waverly, N.J., additional storage tracks for 500 wagons are to be constructed at a cost of $570,000, and these will provide standing ground on which wagons can be held until it is possible to deal with them at Greenville yard or at the adjacent docks and piers.

C. & N.W. Streamline Developments

With the 25 new streamlined Pullman-Standard cars of The 400 type acquired at the beginning of the present year, and three new diesel-electric locomotives—one of 4,000 b.h.p. and two of 2,000 b.h.p.—the Chicago & North Western R.R. has one of the first streamline passenger networks covering an entire area, rather than certain main routes only. This area includes the main line between Chicago, Milwaukee, Wyeville, and St. Paul and Minneapolis, served by the The 400 itself; the shorter Chicago - Wyeville route *via* Madison; the Chicago-Milwaukee-Green Bay -Ishpeming line, with two alternatives—the Shore line and the Valley line—between Milwaukee and Green Bay; the Wyeville-Mankato line; and the Milwaukee-Madison spur. Including the joint North Western-Union Pacific City of Denver, which uses C. & N.W. metals between Chicago and Omaha, the daily North Western streamline-train mileage, serving 48 cities in this industrial region, is now 4,235, and the twice-weekly City of Los Angeles and City of San Francisco and once-weekly City of Portland, between Chicago and Omaha, bring the weekly average to 34,525 miles.

Varied Formations and Itineraries

Maximum mileage is made by the 7.15 a.m. from Ishpeming, which covers the 380 miles to Chicago *via* the Shore line in 7 hr. 25 min., and the 394 miles back by the Valley line in 7 hr. 20 min., making 19 intermediate stops in each direction and covering 774 miles each day. A second train makes two double trips over the 85 miles between Milwaukee and Chicago, and then runs from Milwaukee to Madison, Madison direct back to Chicago, and Chicago to Milwaukee, so making 651 miles daily. A third train starts with a round trip from Chicago to Milwaukee and back, and then runs from Chicago to Green Bay by the Shore route, returning by the Valley route and completing 585 miles each day. The fourth train makes the round trip between Mankato and Wyeville, connecting at the latter with The 400 in each direction; this last 434-mile round trip is the only one with steam power, and specially streamlined Pacifics are used. The trains vary in make-up from four to seven cars; each formation includes a tavern car for refreshments, with lunch counter facilities, and dining cars and extra coaches are marshalled into the formations on the trips on which the patronage justifies this additional accommodation. Such pool use of streamline stock, with varied daily itineraries for the trains, is a novelty in American streamline operation.

BRAZIL

Central Railway Rio de Janeiro Terminal Station

The Central Railway's Dom Pedro II terminal station at Rio de Janeiro is being demolished. At the time of the inception of the Republic, it was described as "an edifice composed of a protruding centre part and five arches sustained by eight columns with two towers and three windows on the two storeys." Inscribed on the archways were the words "E. de Ferro de Dom Pedro II." An attic completed the building, generally considered ugly with its small columns, poor design, and lack of architectural style.

Some years later this building was demolished and replaced by one begun in the early part of 1870 and finished on December 31 of the same year. This was of two towers with three series of columns, those of the first storey in Doric-Roman style and those of the other two in Corinthian style; between them was the centre body with five arches of masonry for the lower part and a large terrace, at the height of the first storey, surrounded by a balustrade of marble.

During the second administrative period of the Prefect Pereira Passos (1897-1899) the building underwent modifications and was enlarged by the inclusion of the electric power station on one side and the accountant's office on the other; these buildings formed two wings. Later, under the administration of the Director Romero Zander (1926-1930), the building was further improved.

The new station building now nearing completion is undoubtedly an example of architectural ambition. Begun in March, 1936, construction has been interrupted on various occasions because of lack of funds, and, although the general masonry is now complete, internal decorations, windows, fittings, and facing have still to be done. An illustration of the new station in its present state is given on page 656.

The building on the right is the new Brazilian War Office which was completed this year despite the fact that it was begun some time after the new station building. This is seen in rear left with the present station, now being demolished, slightly in the foreground. The clock of the new building will occupy the whole of the first high turret. Both the War Office and the new station have been built with Portland cement manufactured by A Companhia Nacional de Cimento Portland, to whom we are indebted for the photograph illustrating these notes.

Extension of Central Railway

Plans for the extension of this railway from Montes Claros to Tremedal, constituting part of a major plan to connect the Central Railway with the Leste Brasileiro, are nearing completion. The through connection entails the construction of 600 km. of line, namely, 250 km. from Montes Claros to Tremedal, in the State of Minas Geraes, and 350 km. from Tremedal to Contendas, in the State of Bahia. The first section will be built by the Central Railway and the second by the Leste Brasileiro, thus furthering the completion of the Government's General Highways Plan, which provides for a trunk railway from Maranhão to the State of Rio Grande do Sul.

FRANCE

Low Wagon Loadings

According to reports from Vichy, the daily average of wagon loadings on the French National Railways in 1941 was 28,900, against 28,802 in 1940; these figures are low compared with 1939, during which year the daily average was 34,226. On the other hand, the average weekly receipts in 1941 (from both goods and passenger traffic) exceeded those of 1940 and 1939; the figures were fr. 330,000,000, fr. 326,000,000, and fr. 308,000,000 respectively. Of these figures, passenger traffic accounted for fr. 91,500,000 in 1941, fr. 54,700,000 in 1940, and fr. 80,100,000 in 1939. The increase in the rates and fares is stated only to cover part of the raising of wages and salaries. The number of employees was reduced by about ten per cent. from 1938 to 1941: this meant a reduction by about 50,000 men to some 414,000.

CHINA

Chinese-built Locomotive

The first locomotive built in recent years in this country was recently turned out of the Central Railway workshops and has run a trial trip from Shanghai North Station. It is intended for service between Shanghai and Peking.

Producer-Gas Buses for London

An ordinary service bus passing the producer-gas unit on a demonstration run on June 2

IT may be recalled that at the beginning of the war the London Passenger Transport Board undertook various experiments with producer-gas plant for double-deck buses, in conjunction with the Mines Department. The Government Emergency type trailer-fitted producer-gas plant was applied to a double-deck bus operating between Kingston and Epsom, and in 1939 also a further series of tests was carried out with a double-deck ST Regent bus equipped with a Bellay producer carried on a platform bolted to the rear of the chassis and enclosed by a wire net surround. Various producer-gas buses were operated for some time in order to complete the tests, but were then withdrawn from public service as the loss of power and various other operating difficulties showed that producer-gas was not a practicable proposition in its then state of technical development to meet the arduous demands of London bus traffic.

Since then the petrol situation has become more exacting and, at the request of the Ministry of War Transport, the London Passenger Transport Board, in common with other transport undertakings, is developing the use of this form of fuel. Consequently in the near future a part of the London Transport fleet based on the Grays garage in Essex will be running on producer-gas. The present intention is to convert 20 double-deck vehicles. These have a seating capacity of 48, with accommodation for 12 standing. The equipment is of the Government Emergency type, but modified by the use of the Morison water filter as developed by the Tilling group of companies instead of a sisal filter. We understand that the Tilling group has placed its very extensive operating experience at the disposal of London Transport in connection with these developments. The producer-gas unit is, of course, carried on a trailer as shown in the accompanying illustration of a demonstration run made on June 2.

For the time being London Transport is confining its conversion to double-deck petrol-engined 4-wheel vehicles, of which the London Transport fleet at present includes approximately 800. The decision to convert petrol-driven vehicles, and not diesel-engined vehicles, is based upon the fact that the average consumption of a petrol-engined bus is 5·5 m.p.g. as against approximately 10 m.p.g. for a similar diesel-engined vehicle. Thus the economy in imported fuel in converting a petrol-engined vehicle is nearly twice that which would be achieved by the similar conversion of a diesel-engined bus. The selection by London Transport of this type of producer-gas unit was made because, for the 7·5 litre engines, as used by London Transport, it was the only one of the required capacity that has been in extensive use under comparable operating conditions. The fuel at present being used is activated anthracite (that is, treated with sodium carbonate), and the fuel consumption of 2·5 lb. to 3 lb. a mile is expected, according to the weight of the vehicle and load, and the nature of the route; this represents an approximate fuel consumption of 60 tons a vehicle a year. As gas producers are being used at the request of the Government, London Transport assumes that the Government will take appropriate steps to ensure the availability of fuel.

The drop in engine power occasioned by the use of producer-gas instead of petrol is in the neighbourhood of 50 per cent. but the compression ratio of the engine has been increased from 5 to 1 to 8 to 1 and this reduces the drop in power to some 25 or 30 per cent. Nevertheless, producer-gas vehicles will be slower in acceleration and on gradients, and with reduced capacity for climbing.

The weight of this producer-gas trailer is approximately 15 cwt. fully loaded, and its capacity is 450 lb. It will be capable of covering approximately 100 miles without re-fuelling. The apparent discrepancy between this figure and the fuel consumption mentioned above is due to the fact that for satisfactory operation there should be at least 150 lb. of fuel in the producer.

Apart from the obvious difficulties of manœuvring in congested streets with a trailer attachment, one of the main disadvantages of producer-gas propulsion so far is that it operates least satisfactorily when the vehicle is required to stop and start at frequent intervals, such as is required in Central London bus service. A commercial vehicle which can often run for many miles without stopping permits of regular air flow to the gas producer, but the irregular demands on the producer of a bus provide a difficulty which has not yet been overcome entirely.

The servicing of producer-gas units is a subject which has been discussed already at some length in our columns, and it may be recalled that the Tilling organisation has turned over two small garages to producer-gas vehicles only. In present circumstances it is not the intention of London Transport to take this step, but the vehicles operating from the Grays depot will be serviced by special equipment in the same garage as other units of the fleet which are continuing to work on liquid fuel.

Trams in Germany

Statistics recently published in the *Hamburger Fremdenblatt* concerning the German tramway systems show that working receipts, which totalled RM. 716,000,000 in 1939, increased to RM. 866,000,000 in 1940, and to RM. 992,000,000 in 1941. These figures do not afford a true basis of comparison, as the 1939 statistics excluded the regions annexed by Germany in the latter part of that year, commonly known as the Eastern Territories (Ostgebiete). Statistics compiled since January, 1941, include the tramways in Sudetenland, in Austria, and in Danzig. Higher receipts are said to be the result partly of increased traffic and partly of increased fares and goods rates. The total of passengers increased by about the same rate as the gross receipts, namely, by about 14½ per cent., from 5,830,000,000 in 1940 to 6,660,000,000 in 1941. Car-kilometres increased by only 3·8 per cent. in the same period (as compared with an increase of 2·5 per cent. from 1939 to 1940), *i.e.*, from 1,204,000,000 car-kilometres to 1,250,000,000 car-kilometres. Trailers accounted for the greater part of the increase, as the German practice now is for one motor vehicle to haul two or more trailers. Overcrowding is now a general feature in Germany, due to the drastic curtailment of the bus services. The number of tram stops is being reduced in all German towns, to minimise wear and tear. The new average distance between stops is 350 metres (1,150 ft.) in the central districts of the larger towns, and 450 to 600 metres (1,480 ft. to 1,970 ft.) in the outer areas. So far, 120 stops have been abolished in Düsseldorf, 85 in Essen, 80 in Duisburg, 70 in Cologne, and 60 in Leipzig. Some preliminary traffic figures, presumably referring to the Old Reich only, were published at page 370 of our March 13 issue.

The "Midland Red" Fleet

A.E.C. double-deck bus introduced to the service of the Birmingham & Midland Motor Omnibus Co., Ltd.

Although the fleet of the Birmingham & Midland Motor Omnibus Co. Ltd., which operates under the familiar fleet name of "Midland Red," is one of the largest in this country, it is unusual in having included until quite recently very few units of A.E.C. make, mainly by reason of the fact that a large proportion of the vehicles is assembled in the company's own workshops. At the present time the total rolling stock of the company comprises 1,397 vehicles, of which 397 are double-deck buses, and 1,000 are single-deck buses (including 102 coaches). Until a few weeks ago the only buses of A.E.C. make found in this large fleet were a small number of single-deckers acquired when a Worcestershire independent operator was taken over shortly before the war. Now they have been joined by the first of six double-deckers obtained under licence from the Ministry of War Transport, shown in the accompanying illustration, where the vehicle is seen at work on the Birmingham-Wolverhampton route. We understand that other A.E.C. buses will probably be included in the "Midland Red" fleet when peacetime manufacturing programmes are resumed.

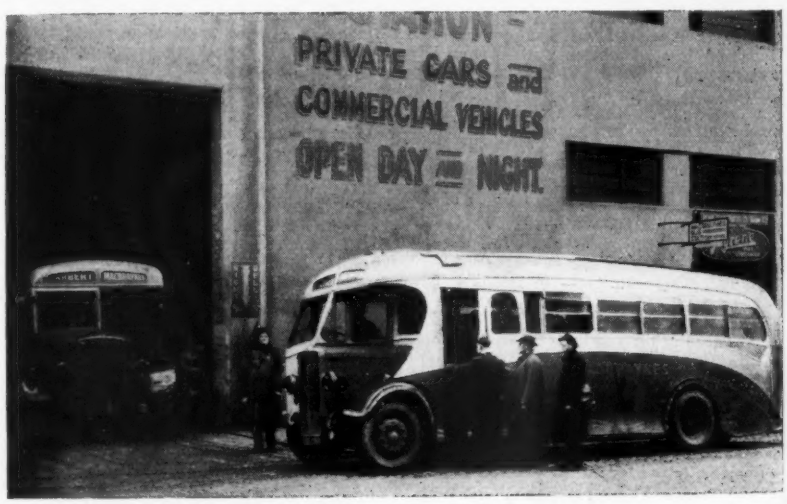
Tramways and Trolleybuses in India

Only four Indian cities—Calcutta, Madras, Bombay, and Delhi—now have electric tramways; those in Cawnpore were abolished in 1933. In Karachi there are petrol driven trams. The first electric trams in India, or anywhere in the East, were in Madras, where the first section was opened on May 7, 1895, before many European cities had such services. The route mileage is now 16¼ and there are 103 single-deck cars, carrying about 75,500 passengers daily, with a car mileage of 8,840. The larger cars have electric and air brakes. At one point the trams cross the electrified section of the South Indian Railway, and the 1,500-volt railway wires are electrically terminated on each side of the crossing; trains therefore coast across. The tramway wires are sectionalised and energised from a contact maker on the crossing gate apparatus. In Calcutta the mileage is 38 (double track throughout) and 106 million passengers were conveyed in 1938 by 315 cars, which are of the single-deck type, resembling some vehicles used in America. In Bombay there was a horse tramway system formed under the Bombay Tramways Act of 1874. The Bombay Tramways Co. Ltd., with 17½ route miles, was taken over by the Bombay Electric Supply & Tramways Co. Ltd. (formed on June 27, 1905) and electrification was begun in 1905 and completed in 1908. The present route mileage is 30. Power is taken from the Tata hydro-electric stations. Both single-deck and double-deck vehicles are used, the former at times coupled. Some of the double-deck cars have centre entrances, and all have air brakes. Traffic reached its peak in 1923, when nearly 102 million passengers were carried, with a car mileage of over 6 millions. It then declined until 1932, but increased building in the north has contributed to a recovery. Speeds have been much improved, but a high average is difficult to attain, as stops are very frequent. The new sub-station equipment includes rectifiers. The Delhi tramways cover only 5 miles, and are metre gauge; the 26 single-deck cars carried 11 million passengers in 1939. There is a 3-mile trolleybus route, using three 20-seat vehicles, which carry about half-a-million passengers annually. Proposals to introduce trolleybuses in Poona and other Indian cities have not yet materialised, but in Rangoon, the capital of Burma, there is an extensive service. The Calcutta tramways are considering opening several routes. The above and other technical details are to be found in Professor Shiv Marayan's recent work on electric traction in India.

Glasgow Bus Station for MacBraynes

Early this year, David MacBrayne Limited, the well-known associate of the L.M.S.R., took over part of Road Transport House, Broomielaw, Glasgow, and made this into a bus station. The company has thereby been able to add to the comfort and convenience of passengers, and to improve the terminal arrangements for its buses on the Inverary, Lochfynside, Lochgilphead, Ardrishaig, Tarbert, and Campbeltown services. Vehicles are now normally loaded under cover, within a few yards of the booking office, cloakroom, and refreshment room, which are grouped beneath one roof.

Many of the MacBrayne services are operated by modern A.E.C. vehicles, of which the first, a Regal, was acquired in 1934. This was followed the same year by two Q type single-deckers, and by four Regals between 1935 and 1936. Further A.E.Cs. were bought in 1938, and the company has six Regals on order for post-war delivery. As the buses work continually on routes in the Highlands, the four latest machines are made distinctive by the figure of a clansman painted on the side panels. Some of the buses are fitted with post boxes. All the MacBrayne vehicles operate under severe conditions. For example, the Fort William run involves mounting to Rannoch Moor and traversing the Pass of Glencoe; and the 86-mile Ardrishaig route includes the 1-7 ascent over Rest-and-Be-Thankful, 800 ft. above sea level.



One of MacBrayne's A.E.C. Regal buses loading outside the new bus station at Road Transport House, Broomielaw, Glasgow

CONCRETE SLEEPER TESTS ON AN L.M.S.R. MAIN LINE

Tests are being made on a heavily-used section of the Euston-Crewe main line

THE possibilities of the successful use of reinforced concrete sleepers on lines subjected to heavy traffic are being tested by the London Midland & Scottish Railway. For this purpose concrete sleepers have been laid on a heavily used section of the Euston—Crewe main line.

Experiments in the use of concrete sleepers have been conducted by the British railways for a good many years—tests were made a quarter of a century ago—and since the outbreak of war and the closing of many sources of the supply of timber, coupled with the need to effect the utmost economy in the use of shipping space, research into the possibilities of this substitute for timber sleepers has received considerable impetus. In the past two years a number of references have been made in THE RAILWAY GAZETTE to the steps which have been taken by various railways to this end. Before the war timber sleepers came mostly from the Baltic countries and from Canada, and some 4,300,000 were bought by the British railway companies every year.

Recent experiments with concrete sleepers to a considerable extent have been confined to their use in sidings, at marshalling yards, and at places where high speeds are not run; the present test should give some indication of the suitability for use in this country on heavily worked main lines.

The sleepers which have been chosen for the experiment conform to the wartime specifications of the British Standards Institution. In all a length of 200 yards has been laid with the sleepers, and two types of reinforcement are being used in the test. The sleepers are 7 ft. 6 in. long, 10 in. wide, and 5 in. deep; they are fitted with "Philplug" inserts to take standard L.M.S.R. chairs and screws. A felt pad has been inserted between the chairs and the surface of the sleepers; short 9 in. fishplates, with two bolts, are used at rail joints.

A section of the line laid with concrete sleepers; the track on the left is on timber sleepers

Concrete sleepers ready for placing in position to replace existing timber sleepers

Concrete sleepers in position. A felt pad is inserted between the chairs and the surface of the sleepers

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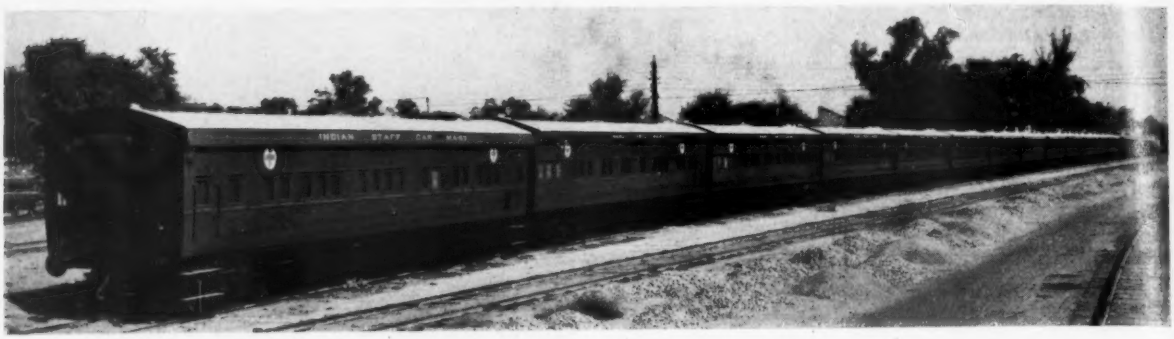
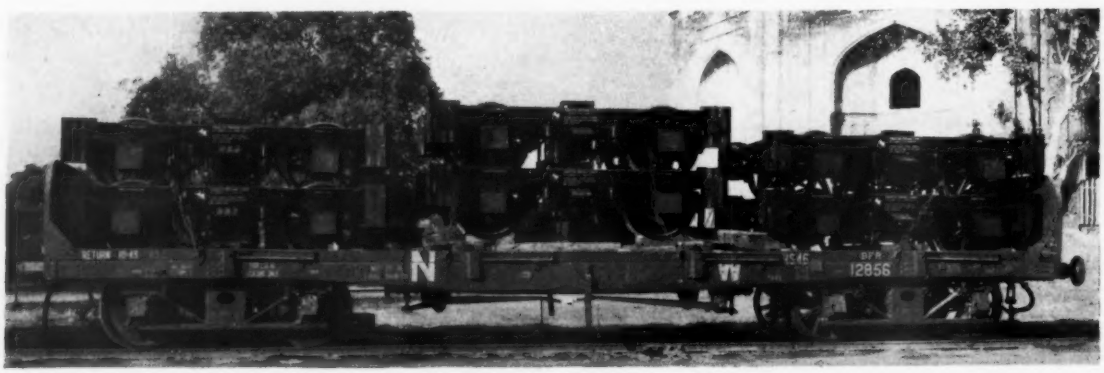
THE RAILWAYS OF THE UNITED STATES IN 1940.—In THE RAILWAY GAZETTE of March 6, 1942, page 332, we reviewed at some length the 55th annual report of the Interstate Commerce Commission, dated November 1, 1941, and submitted to the United States Congress on January 7, 1942. To the net operating income, "other income" is added, amounting in 1940 to $168,929,903, and interest, rent, and other charges, aggregating $659,923,169, are deducted, leaving a net surplus of $191,050,213, as compared with $94,638,951 in 1939. Total railway capital outstanding was $21,047,280,000, of which $11,277,306,000 represented funded debt unmatured, and $9,769,974,000 represented stock. The ratio of debt to capital was thus 53·6 per cent. The report also shows that the ratio of net income to stock has fallen from 9·92 per cent. in 1929, and 5·77 per cent. in 1930, to 1·44 per cent. in 1939, and 2·49 per cent. in 1940. During the year ended October 31, 1941, 139 applications were filed for permission to abandon 2,317 miles of road; 111 applications were granted, involving 1,084 miles of Class I carriers and 855 miles of short lines. The figures which are given in the table hereunder show the principal operating results of all Class I steam railways, excluding shunting and terminal companies, for 1940 and 1939:—

	1939	1940
Route miles open	235,064	233,670
Passenger and freight train-miles	843,248,857	873,793,523
Passengers carried	450,373,000	452,921,000
Passenger-miles (thousands)	22,651,334	23,762,359
Freight, revenue tons	1,636,215,000	1,843,290,000
Freight, revenue ton-miles (thousands)	333,438,412	373,253,197
Operating ratio, per cent.	73·05	71·90
	$	$
Passenger revenue	416,916,864	416,896,000
Freight revenue	3,251,096,141	3,528,782,000
Total operating revenue	3,995,070,943	4,296,601,000
Operating expenses	2,918,215,991	3,089,417,000
Tax accruals	355,766,155	398,725,000
Equipment and joint line rents	132,287,904	128,654,257
Net railway operating income	588,800,893	682,118,487

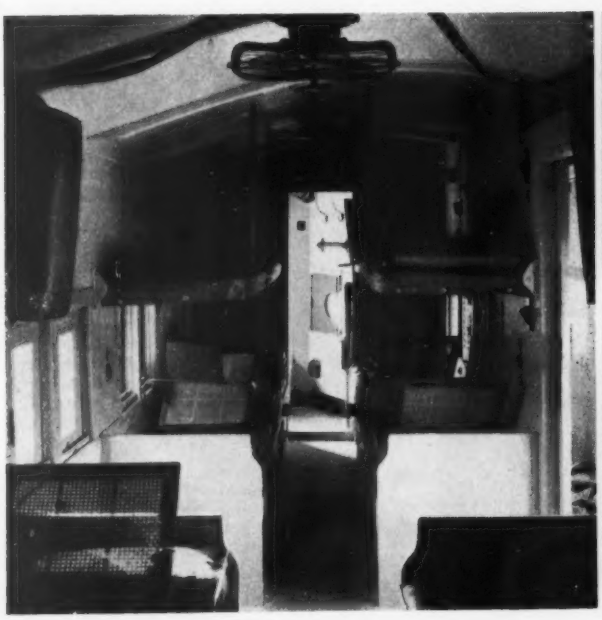
4 ft. 8½ in. Gauge Ambulance Train Built by the N.W.R., India



General view of standard gauge (4 ft. 8½ in.) ambulance train converted from 5 ft. 6 in. gauge third class stock in N.W.R. workshops, and placed on new 4 ft. 8½ in. bogies



N.W.R.-built 4 ft. 8½ in. gauge bogies for ambulance train loaded on a 5 ft. 6 in. gauge bogie flat truck for transport to the port of embarkation



Interior of officers' ward car

View looking through one of the seven ward cars

RAILWAY NEWS SECTION

PERSONAL

It was announced on June 3, that Major Gwilym Lloyd George, Parliamentary Secretary to the Ministry of Food, will be Minister in charge of the new Ministry of Fuel, Light, and Power.

At the request of the Minister of Supply, Sir Cecil Weir, K.B.E., M.C., D.L., has been released by the President of the Board of Trade to take up the appointment of Director-General of Equipment & Stores in the Ministry of Supply, in succession to the late Sir William T. Wilson. Sir Cecil Weir, who was Controller-General of Factory & Storage Premises at the Board of Trade, will retain his membership of the Industrial & Export Council.

The President of the Board of Trade has appointed Mr. P. A. Warter, the Deputy Controller-General, to be Controller-General of Factory & Storage Premises in succession to Sir Cecil Weir.

It is officially announced that the Right Hon. Viscount Swinton, G.B.E., M.C., has been appointed Minister Resident of Cabinet rank in West Africa.

Sir John Forster, Chairman, Railway Staff National Tribunal, has been appointed a member of the Board of Investigation to deal with the miners' wage claim.

INDIAN RAILWAY STAFF CHANGES

The services of Mr. A. A. Phillips, Chief Commercial Manager, N.W.R., have been placed at the disposal of the Defence Department.

Mr. J. W. Ogle has been appointed to officiate as Chief Commercial Manager, N.W.R., in place of Mr. Phillips.

Mr. J. Henderson has been appointed to officiate as Divisional Superintendent, Karachi, N.W.R., in place of Mr. Ogle.

Mr. B. L. Cameron, Divisional Superintendent, Quetta, has had to retire from the service because of ill-health.

Mr. R. Proudlock has been appointed to succeed him as Divisional Superintendent, Quetta.

NIGERIAN RAILWAY APPOINTMENTS

The Secretary of State for the Colonies has approved the following appointments :

Mr. A. J. F. Bunning, Traffic Manager, Gold Coast Government Railway, to be Chief Traffic Superintendent, Nigerian Railway.

Mr. W. J. O. Reeves, Senior Engineer, to be Chief Engineer, Nigerian Railway.

Mr. H. G. Shoebrooks, Running Shed Foreman, to be Chief Running Inspector, Nigerian Railway.

Mr. W. Dickinson, Senior Traffic Superintendent, to be Traffic Manager, Gold Coast Government Railway, *vice* Mr. A. J. F. Bunning, appointed Chief Traffic Superintendent, Nigerian Railway.

Mr. C. Furber, Mineral Traffic Manager, G.W.R., who, as recorded in our June 5 issue, has been appointed Mineral Traffic Manager & Development Agent as from July 1, was born in March, 1889. He entered the company's service in September, 1904, in the London District Goods Manager's Office, and, after serving in various sections, he was transferred in 1914 to Southall Goods Station, where he acquired much practical experience and knowledge of general station work. Towards the end of 1916, Mr. Furber was promoted to the General Manager's Office, during his ten years in which he acted as Personal Clerk to the General Manager and was in charge of the General Section. He represented the General Manager on a number of staff investigation committees

Elliott [*& Fry*

Mr. C. Furber

Appointed Mineral Traffic Manager & Development Agent, G.W.R.

concerned mainly with questions of organisation and the introduction of office mechanical appliances, acted as Secretary to the Clerical Work Committee, and was closely associated with important proceedings before the Railway Rates Tribunal. In March, 1926, Mr. Furber returned to the London District Office as Assistant, a position which he occupied until 1930, when he was appointed Chief Clerk to the Chief Goods Manager and Secretary to the Great Western Goods Conference. In 1931 he was deputed to represent the G.W.R. at functions in France connected with the company's cross-channel business, and he was later made Assistant Mineral Traffic Manager, and, in 1933, Mineral Traffic Manager. He is a member of the Birmingham Coal Exchange, was Chairman of the Mineral Manager's Conference of the Railway Clearing House in 1935 and 1938, and has done much to develop the company's mineral traffic. Since the outbreak of war the movement of coal by rail for munitions, domestic, and public service purposes has been an essential part of the nation's war effort, and in December, 1940, Mr. Furber was made a member of the Executive Sub-Committee of the Lord President's Coal Committee. He is a member of the Mines Department Transport Committee, the Mineral Committee of the Railway Executive Committee, the Joint Goods & Mineral Committee, and the Advisory Committee of Traders & Railways dealing with questions affecting the distributive coal trade under the Demurrage Order.

Mr. J. H. Infield, Director, Brighton, Hove & District Omnibus Co. Ltd., and Deputy-Chairman, Southdown Motor Services Limited, left £30,021.

The directors of the Phœnix Assurance Co. Ltd. have appointed Mr. R. Y. Sketch, F.C.I.I., to be Chairman, and Sir Thomas Royden, Bt., C.H., and Lt.-Colonel the Hon. J. P. Astor, M.P., to be Deputy-Chairmen for the ensuing year.

We regret to record the death, on June 2, of Mr. Robert F. Thurtle, who had been Editor of the *Great Western Railway Magazine* since March, 1937. Mr. Thurtle was born on October 10, 1889, and entered the service of the G.W.R. in the Goods Depot, Pontypool Road, in December, 1903. In February, 1907, he was transferred to the Traffic Department, and occupied various positions in South Wales until November, 1924, when he became Stationmaster at Pontrilas. In February, 1927, he was transferred to the General Manager's Office, and, in succession to Mr. E. S. Hadley, he was appointed Editor of the *Great Western Railway Magazine*. The funeral took place at Golders Green Crematorium, on June 5. Among those attending were :

Mr. H. G. Bowles (representing Sir James Milne), Mr. Edward S. Hadley (representing Sir Felix J. C. Pole), Mr. S. B. Taylor (and representing Mr. F. R. E. Davis), Mr. F. G. Richeno (also representing Mr. H. E. Hedges), Mr. N. Wetherilt (representing Mr. F. C. Hockridge), Mr. W. W. Legg, Associate Editor, THE RAILWAY GAZETTE.

THE LATE LORD STAMP

For many years the late Lord Stamp was the Chairman of Queenswood School for Girls, close by Hatfield in Hertfordshire. In the spring of 1941 Lord Stamp's home was razed to the ground. His wife, his eldest son, and he himself lost their lives. Recently at a special service in the chapel at Queenswood the tragedy was recalled. The widow of the eldest son, the present Lord Stamp, Miss Smith, for over twenty years Lord Stamp's personal secretary, and Sir Harold Bellman were in the congregation. Professor E. S. Waterhouse gave the address. He said :

" The late Lord Stamp was one of the most modest of scholars. He held power in the gentlest of hands. He would never have wished that any memorial of himself should become a mere panegyric of his gifts. His last words to the School were ' Remember, girls, that what counts for most in life is real goodness.' He knew life from many sides. He knew the depths of learning, the power of economic forces, the potentialities of administration. These and many more things filled his life and claimed his thought, but above them all he placed simple goodness. It is the spiritual legacy we leave which is our true memorial. Lord Stamp was Chairman of the Governors of Queenswood. His spirit shall still steer our course. Lord Stamp is not and cannot be lost to Queenswood. He calls us to follow the Master he followed in the same spirit of wisdom, gentleness, and faith. That call must never be forgotten, and, as long as it is heard, the voice we once loved will never be hushed in our midst."

Arrangements are being made for a Lord Stamp Scholarship to be founded at Queenswood.

XUM

New Central Railway Station, Rio de Janeiro

The new station which is being built to replace the Central Railway of Brazil's Dom Pedro II terminal station at Rio de Janeiro. The station is shown on the left of the illustration; on the right is the Brazilian War Office (*See page* 650)

Southern Railway Locomotive Named "P. & O."

The sixth of the Southern Railway's new "Merchant Navy" class mixed-traffic locomotives was named by Sir William C. Currie, Chairman & Managing Director of the Peninsular & Oriental Steam Navigation Company, on June 4. On the platform, after the nameplate had been uncovered, are shown (left to right): Mr. E. J. Missenden (General Manager, Southern Railway), Colonel Eric Gore-Browne (Deputy-Chairman, Southern Railway), Sir William C. Currie, Mr. W. P. Spens, M.P., and Mr. O. V. Bulleid (Chief Mechanical Engineer, Southern Railway) (*See page* 661)

TRANSPORT SERVICES AND THE WAR—143

Withdrawal of L.N.E.R. Restaurant Cars

The effect on L.N.E.R. services of the drastic reduction of restaurant cars is that from Wednesday, May 27, all restaurant and buffet cars on the L.N.E.R. have been withdrawn except from the following trains :—

WEEKDAYS

9.30 a.m. and 5.30 p.m. King's Cross to Leeds (Central)
7.50 a.m. and 5.15 p.m. Leeds (Central) to King's Cross
10.20 a.m. Norwich to Liverpool Street.
5.49 p.m. Liverpool Street to Norwich.
9.55 a.m. and 7.10 p.m. Edinburgh to Aberdeen.
6 a.m. and 6.5 p.m. Aberdeen to Edinburgh.
5.55 a.m. Glasgow to Fort William.
2.50 p.m. Fort William to Glasgow.

SUNDAYS

8.20 a.m. Edinburgh to Aberdeen.
5.40 p.m. Aberdeen to Edinburgh.

Alternative Fuels in Sheffield

Reference has been made in our columns on a number of occasions to the use by the Sheffield Corporation Transport Department of both creosote and producer gas as alternative fuels to petrol and diesel oil in the maintenance of the City bus services. This formed the subject of some remarks recently by Major F. S. Eastwood, Regional Transport Commissioner, when he pointed out that, because Sheffield did not produce its own supplies of creosote, the Transport Department had to obtain a licence and buy from a gas company at Leeds. On the use of producer gas, Major Eastwood said that Sheffield Corporation Transport had converted a 32-seat bus to run on producer gas by reducing its seating capacity to 26 to provide accommodation for the outfit. The conversion had cost £153, and the vehicle had now run 20,000 miles on producer gas. There was a 30 per cent. loss of power, but the operating costs had been found to be lower.

Restaurant Cars in Germany

All railway restaurant cars have been withdrawn in Germany, according to a message from the Berlin correspondent of the *Neue Zürcher Zeitung* at the end of May.

Bohemian Hospital Train for Germany

What the Germans officially call a "hospital train presented by Dr. Hacha in the name of the population of Bohemia-Moravia" to Hitler for his birthday, was taken over recently at the Prague Central Station (formerly known as Wilson Station) by Heydrich. The train consists of 28 vehicles built to modern requirements in respect both of train operation and hospital equipment; it provides accommodation for 280 wounded. The weight of the train is 545 metric tons and its length is 410 metres (1,344 ft. 10 in.). It was built at the Prague-Bubna works of the Bohemian-Moravian State Railways. The sides of the vehicles are decorated with the swastika with the arms of Bohemia-Moravia underneath, to "show the attachment of Bohemia-Moravia to the Reich." The train was given the official number 751.

Wagon Shortage in Denmark

The Danish State Railways are reported to be experiencing a severe shortage of wagons and locomotives. Passenger services were further curtailed on April 21 to release locomotives for other services. Acceptance of goods has been restricted from the same date, as foodstuff transport absorbs all the available rolling stock.

Railway Traffic between Bulgaria and Turkey

According to a message from Vichy, the 'temporary railway bridge over the River Maritza on the frontier of Bulgaria and Turkey was completed on June 1, and is now undergoing test in preparation for the resumption of traffic on June 15. The Simplon-Orient Express, which has terminated at Sofia, may be extended to Istanbul.

New Bulgarian Railway

With a view to relieving the Sofia-Pernik standard-gauge railway line, which provides the only rail communication between the Pernik zone, the chief coal mining region of Bulgaria, and the rest of the country's railway system, a relief line is to be built linking Batanovci, 9 km. (5½ miles) to the south of Pernik, with Kostinbrod, 15 km. (9 miles) to the west of Sofia, on the Sofia-Dragoman-Nish main line. This new double-track

GROUP 1
Westminster
Chelsea
Fulham
Hammersmith
Kensington

GROUP 2
St. Pancras
St. Marylebone
Paddington
Hampstead
Islington
Stoke Newington

GROUP 3
City of London
Holborn
Finsbury
Shoreditch
Hackney
Bethnal Green
Stepney
Poplar

GROUP 4
Bermondsey
Deptford
Greenwich
Woolwich
Lewisham

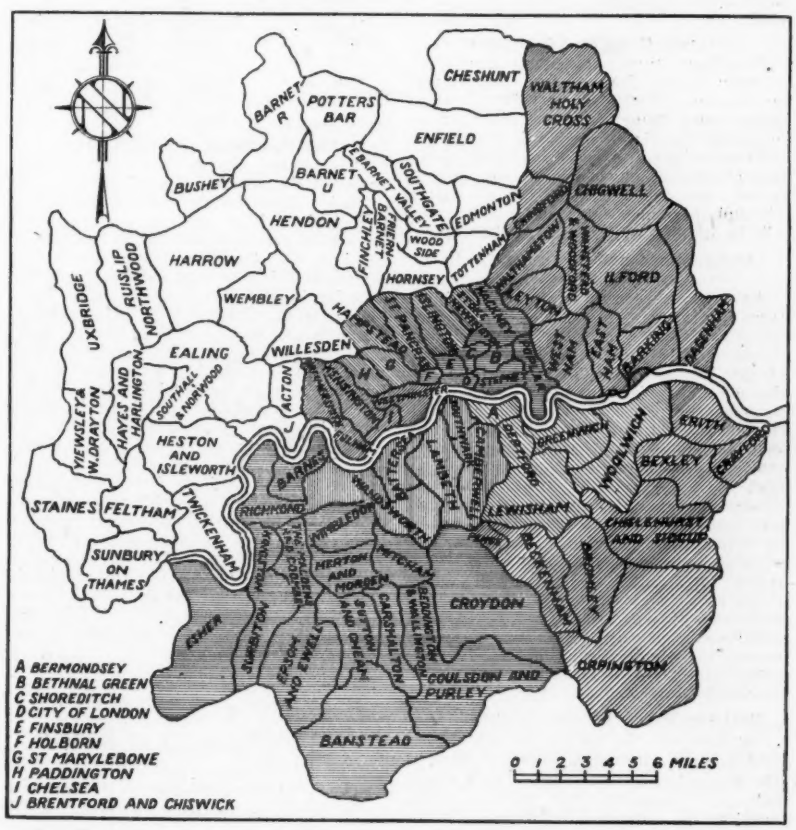
GROUP 5
Southwark
Camberwell
Lambeth
Wandsworth
Battersea

GROUP 6
Sunbury-on-Thames
Staines
Feltham
Twickenham
Heston & Isleworth
Yiewsley & West Drayton
Hayes & Harlington
Brentford & Chiswick
Southall & Norwood
Ealing
Acton
Uxbridge
Ruislip & Northwood
Harrow
Wembley
Willesden
Hendon
Bushey
Barnet Rural
Barnet Urban
East Barnet Valley
Potters Bar
Friern Barnet
Finchley
Hornsey
Wood Green
Southgate
Tottenham
Edmonton
Enfield
Cheshunt

GROUP 7
Waltham Holy Cross
Chingford
Chigwell
Walthamstow
Leyton
Wanstead & Woodford
Ilford
Barking
Dagenham
East Ham
West Ham

GROUP 8
Erith
Crayford
Bexley
Chislehurst & Sidcup
Orpington
Bromley
Beckenham
Penge

GROUP 9
Barnes
Richmond
Kingston-on-Thames
The Maldens & Coombe
Wimbledon
Merton & Morden
Mitcham
Beddington & Wallington
Croydon
Coulsdon & Purley
Carshalton
Banstead
Sutton & Cheam
Epsom & Ewell
Surbiton
Esher



Sketch map showing the London Civil Defence Region (Region No. 5), indicating the areas of the constituent local authorities, and the groups into which they have been formed for mutual assistance. The parish of Aldenham in the Rural District of Watford (between Bushey and Barnet Rural) is included in Transport Region No. 5, the borders of which are otherwise the same as those of the Civil Defence Region

View of the heap of debris which was all that remained of Viipuri (Viborg) railway station, in the part of Finland ceded to Russia, after the fight for the possession of the town. The express goods shed is being used as a temporary passenger station

standard-gauge link between Batanovci and Kostinbrod will be 59 km. (36½ miles) long. It will have gradients as severe as 1 in 83 and curves with a minimum radius of 600 metres. The construction of the line is stated to have been begun on May 12, when some 3,000 conscripted Jews were set to work.

Trieste Traffic Agreement

A railway traffic agreement concluded between Italy, France, and Switzerland on the one hand, and Serbia, Croatia, Greece, and Bulgaria on the other, came into force on May 1. All railway traffic, both passenger and goods, between these two groups of countries is to be concentrated on the Trieste transit route. Through passenger fares and goods rates will be applied as soon as possible.

Motorbuses use Tram Rails in Budapest

As a result of the shortage of rubber tyres in Hungary, the Budapest bus services have been curtailed drastically in recent months, and lately the operation of the few surviving lines has been reduced to a few hours a day. With a view to using the passenger accommodation of the buses which were standing idle in their garages, the tram management (which also operates the bus services) equipped a bus with tram wheels experimentally, and trial runs showed that this bus (using the fuel known in Hungary as "motalko," a mixture of motor oil with 20 per cent. of alcohol) could give satisfactory results. A batch of 12 motorbuses was therefore converted to operate as "tram-buses" and 50 will be adapted eventually. These "tram-buses" work among the tramcars on lines having terminal loops, as the buses cannot be reversed.

Railway Road Traffic in Hungary

In Hungary the railway-operated road motor traffic, known as Mávauto (Máv is the abbreviation for Magyar Állam Vasutak, *i.e.*, Hungarian State Railways), was considerably extended in 1940 as a result of the acquisition of territories from Roumania. The report of the Hungarian State Railways for 1940, recently issued, gives some figures in respect of the Mávauto services, but these are not capable of precise comparison, as the areas served in 1939 and 1940 were so different in extent. The following are the principal figures:—

	1939	1940	Increase or decrease per cent.
Km. worked ...	10,646,625	12,037,449	+ 13
Passengers	4,404,808	6,120,544	+ 38·9
Receipts in Pengö:			
Passengers and luggage ...	6,057,810	8,394,124	+ 38·6
Goods	497,991	1,995,656	+ 300·1
Various	391,733	438,683	+ 12
Total	6,947,534	10,828 463	+ 55·8
Expenditure ...	4,932,168	8,324,997	+ 68·8
	Per cent.	Per cent.	
Working ratio ...	70·99	76·88	

The Partition of Jugoslavia

Rival claims of neighbour vassal States have set the Germans a ticklish problem in their scheme for the dismemberment of Jugoslavia, which does not yet appear to have been solved completely in the case of Serbia. For the time being Serbia has been left with a narrow strip north of the Danube in the Banat to separate Roumania from Hungary in that district. Through the narrow strip runs the railway from Belgrade-Pancevo *via* Veli Kikindi to Szegedin in Hungary. The old frontier between the stations Banat-Arandelevo in Jugoslavia and Sereg in Hungary is here maintained, and the Bucharest—Budapest line, *via* Timishoara, Zimbolea, and Szegedin, still crosses Serbian territory from Zimbolea to Sereg. This is a temporary arrangement, depending on the solution of the Hungarian and Roumanian differences in Transylvania. Immediately after the German-Hungarian occupation of Jugoslavia it was announced that Serbia would be restored to her 1914 frontiers, *i.e.*, with the Danube as her northern border. Roumania was opposed to this, feeling that Hungary's claim to the whole of Roumanian Transylvania would receive impetus if Hungarian territories more or less surrounded this corner of Roumania on three sides. It was then decided to draw the frontier on the Hungarian side of the Belgrade—Vrsac railway, as indicated on the map on page 260 of our issue of February 13, 1942. However, the final arrangement, decided on by Hitler, was the present one, clearly with the object of keeping a valuable pawn in hand for the solution of the Transylvania problem between Hungary and Roumania. Hungary's claim to this strip of Serbia, in line with her claim on further parts of Transylvania is still being pressed, and the final decision no doubt will depend on the measures of political support Germany secures from either Roumania or Hungary. The only railway route between Serbia and Hungary at present available is *via* Sereg. Other lines which cross the frontier between Sereg in the north, and Novi Sad in the south, have not officially been made available for public traffic.

U.S.A. Cheap Meals to the Forces

Members of the United States, Canadian, and British armed forces, when in uniform and travelling on furlough or leave at their own expense, are granted a 10 per cent. reduction on meals served in dining cars or other equipment of 18 Eastern United States railways. The reductions, which became effective on April 1, apply to individual service of food (including such beverages as coffee, milk, tea, and chocolate) amounting to 50 cents or more. The reductions do not apply to cigarettes, cigars, or bottled beverages. Railways participating in the reduced price scheme are the Baltimore & Ohio; Central RR. of New Jersey; Chesapeake & Ohio; Chicago & Eastern Illinois; Chicago, Indianapolis & Louisville; Delaware & Hudson; Lackawanna; Erie; Grand Trunk; Lehigh Valley; New York Central; Nickel Plate; Norfolk & Washington (D.C.) Steamboat Co.; Norfolk & Western; Pennsylvania; Pere Marquette; Reading; and Wabash.

U.S.A. Hospital Trains

The use of converted Pullman cars as hospital ward cars with Army hospital trains in the U.S.A. was referred to at page 455 of our issue of October 31, 1941. Subsequently we received from the U.S.A. War Department a series of photographs of such hospital trains, and three of these were reproduced at page 134 of our January 23 issue. We now learn that the total capacity of a complete train is 504 persons, of whom 440 are seated and 64 in beds in ward cars. Sleeping cars which form part of the train are capable of being used either for beds or for seating, and therefore a train has a maximum capacity of 284 beds. The make-up is as follows:—

Car No.	Description	Bed capacity	Bed total	Seating capacity	Seat total
1	Unit car	4 beds for cooks ... 2 beds for officers ...	6	6 seats for cooks .. 4 seats for officers	12
2	Ward car ... ... 16 double tier beds ...	16 upper beds ... 16 lower beds	32	—	—
3	Ward car ... ... 16 double tier beds ...	16 upper beds ... 16 lower beds	32	—	—
4	16 section sleeping car ...	16 upper berths ... 16 lower berths ...	32	or 64	64
5	13 section sleeping car ...	13 upper berths ... 13 lower berths ...	26	or 52	52
6	" " ...	" ...	26	or 52	52
7	" " ...	" ...	26	or 52	52
8	" " ...	" ...	26	or 52	52
9	" " ...	" ...	26	or 52	52
10	" " ...	" ...	26	or 52	52
11	" " ...	" ...	26	or 52	52

XUM

Ministry of War Transport Accident Report

Cowlairs East Junction, L.N.E.R., January 30, 1942

Colonel A. C. Trench inquired into the accident which occurred at 4.56 p.m. on January 30, 1942, at Cowlairs East Junction signal box, L.N.E.R., when the 4 p.m. express, Edinburgh to Glasgow, consisting of 9 bogie coaches with Buckeye couplings and Pullman vestibules, weighing 301 tons and drawn by 4-4-0 (Director Class) locomotive No. 6401, while travelling at about 35 m.p.h. under clear signals, collided chimney to chimney with 4-4-0 light engine No. 9339, which was waiting opposite the signal box to go through a crossover road. Both engines suffered severe damage. The leading halves of the bodies of the first and second coaches were destroyed, and the next three vehicles suffered minor damage. Eight passengers and the express driver were killed and 4 passengers and the light-engine driver fatally injured. Ten passengers were detained in hospital. The signal box windows were blacked out with blue paint, except for 4 clear patches at the front and end of each front corner. Standing about the centre of the frame, Colonel Trench could not see an engine standing where No. 9339 waited, but could do so through the clear patch in the north front window when at that end.

Origin of the Collision

A troop train hauled by engine No. 4700 arrived at the up branch home signal and in due course Fireman Milligan, after a conversation with the driver of another engine on the down branch, uncoupled it, and went to the box for instructions. Signalman Clement told him to hurry up and lowered the signal for the engine. Driver McTear moved forward, picked up Milligan and stopped on the up-main line. He passed engine No. 9339, which was to take the troop train forward, and saw it stop at the south end of crossover No. 23. Driver Graham, on this engine, had been waiting in front of engine No. 6378 in the down dead-end siding and, after telephone instructions from Clement and the clearing of the relative disc signal, moved out to the position mentioned. While lying fatally injured in hospital he stated that he then put his engine into forward gear and whistled three times to indicate that he was waiting to cross. Clement, however, heard no whistle. Soon after stopping, Milligan, on engine No. 4700, saw the down main-line signals lowered and drew McTear's attention to it. The latter told him to hurry to the box, and, sounding pop whistles to attract attention, started forward to give the earliest possible information to any down train, but had gone only a few yards when he saw the express approaching. Milligan ran to the box and shouted to Graham—they both shouted to Clement—who got his engine into reverse and may have just started to move back when the collision occurred.

Signalman Clement said that after accepting an up train for Perth he pulled the disc signal for engine No. 9339 to leave the dead-end siding and, when the Perth train had passed, the branch home signal, also, to bring engine No. 4700 forward. Immediately after that he was offered the express from Edinburgh, but did not at once accept it, having the crossing engine movement in mind. Looking at the dead end he saw an engine there and concluded this was No. 9339. He therefore replaced the disc and the outlet points, accepted the express, offered it forward and lowered all signals for it. He made some train register entries, heard the shouting and, turning round to the clear patch of one of the front windows, saw the waiting engine. It appears probable that Graham's engine had been waiting about 2½ min.

Driver Robertson made a normal brake application at the distant signal. (There is a 10 m.p.h. speed limit beyond Cowlairs West.) Fireman Broomfield was looking out on the left when, just before the overbridge, Robertson shouted "jump" and applied the brake fully. The fireman thought there was no time for the brakes to have taken hold and that the impact took place at 30 to 35 m.p.h.

Inspecting Officer's Conclusions

This accident was due to the simultaneous failure of Signalman Clement, who should have assured himself that the line was clear, and Fireman Paul, of the light engine, who should have gone to the box without delay. Clement, a man of 44 with 22 years' experience and clear record as signalman, frankly admitted his failure, but attributed it—with some justification, as Colonel Trench thinks—to difficulties of working at time of pressure under handicap from the blacked out windows. On the other hand he could, as he admitted, have opened the window. Paul, who is 21, with 5 years' service and was passed for firing in May, 1939, and also has a clear record, thought that Rule 55 required him to go to the box after a period of 3 min. in clear weather, not realising that this applied to a running train (Rule 55(*a*)) whereas a shunting movement is governed by Rule 55(*b*), which required him to go immediately.

Recommendations and Remarks

Without the obscuration of the windows Clement would not, it is considered, have failed to see the light engine. Arrangements should be made to improve matters in busy boxes where signalmen have to deal with shunting and crossing movements and rely on visual observation. Track circuit would have prevented the accident, but there is no special justification for it at this point.

A feature which probably contributed to the number of casualties in the leading coach, a third brake, was that the 3 passenger compartments were at the leading end.

The company's instructions, revised as a result of Sir Alan Mount's report on the accident to the same train at Castlecary on December 10, 1937 (reported at length in The Railway Gazette for June 24, 1938, page 1207) prescribe that a brake van or vehicle with brake compartment leading should, as far as practicable, be marshalled next to the engine, except where otherwise specified in the carriage working booklet, or delay will be caused at starting. When passenger carrying vehicles are attached in front *en route* they should be marshalled within the front brake van where this can be done without causing delay.

On January 20 the coach at the Glasgow end of the train had to be taken out of service for repairs. The Leith Central stationmaster specified at which end the brake compartment should be when telephoning for replacement, but it arrived lying the wrong way and there was no time to turn it, so he allowed the train to depart with the coach in this condition. It continued to work in this manner until the accident.

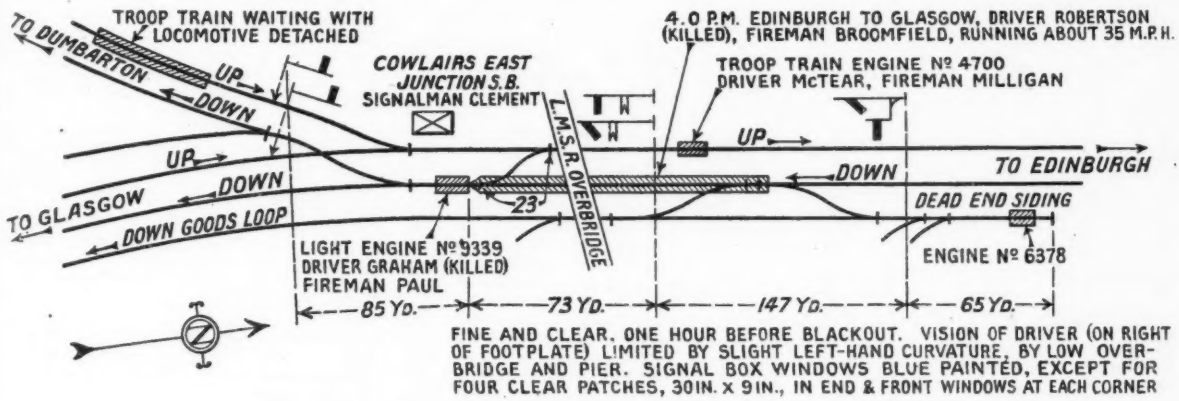

TROOP TRAIN WAITING WITH LOCOMOTIVE DETACHED
TO DUMBARTON
UP
DOWN
4.0 P.M. EDINBURGH TO GLASGOW, DRIVER ROBERTSON (KILLED), FIREMAN BROOMFIELD, RUNNING ABOUT 35 M.P.H.
COWLAIRS EAST JUNCTION S.B. SIGNALMAN CLEMENT
L.M.S.R. OVERBRIDGE
TROOP TRAIN ENGINE Nº 4700 DRIVER McTEAR, FIREMAN MILLIGAN
UP
DOWN
TO EDINBURGH
TO GLASGOW
DOWN
DOWN GOODS LOOP
23
DEAD END SIDING
LIGHT ENGINE Nº 9339 DRIVER GRAHAM (KILLED) FIREMAN PAUL
ENGINE Nº 6378
85 Yd.
73 Yd.
147 Yd.
65 Yd.
FINE AND CLEAR. ONE HOUR BEFORE BLACKOUT. VISION OF DRIVER (ON RIGHT OF FOOTPLATE) LIMITED BY SLIGHT LEFT-HAND CURVATURE, BY LOW OVERBRIDGE AND PIER. SIGNAL BOX WINDOWS BLUE PAINTED, EXCEPT FOR FOUR CLEAR PATCHES, 30IN. X 9IN., IN END & FRONT WINDOWS AT EACH CORNER

Diagram illustrating collision at Cowlairs East Junction, L.N.E.R.

RAILWAY AND OTHER MEETINGS

Brush Electrical Engineering Co. Ltd.

The ordinary general meeting of the Brush Electrical Engineering Co. Ltd. was held on June 2 at the registered offices of the company at Loughborough. Sir Ronald Matthews, Chairman of the company, presided, and in the course of his speech said that the works throughout the year had been fully occupied, and there had been a further substantial increase in turnover. The trading profit at £184,484 compared with £127,620 last year. It was a matter of much gratification to the directors that they were able to recommend a dividend on the ordinary stock after a lapse of 11 years and at the same time to make a further appropriation of £50,000 to general reserve. That was, he thought, an indication that the reorganisation was now showing results.

During the year the board had exercised the right of commuting the annual payment under the agreement with Associated British Engineering Limited, which was entered into on the acquisition of the diesel-engine business of Petters Limited, Yeovil, and provided for a payment for 10 years based on the engine turnover of Petter engines. The directors felt that with the efforts which they had made, and which they were continuing to make, to increase the efficiency and turnover of the company, the annual payment to Associated British Engineering Limited would assume larger proportions in the future. They considered, therefore, that it was desirable to capitalise the annual payment at the earliest opportunity, particularly having regard to the fact that Associated British Engineering Limited was prepared to accept shares in settlement. Treasury consent having been obtained, the company issued to Associated British Engineering Limited £50,000 preference shares and £27,000 ordinary shares. £10,000 of this sum had already been provided for in the accounts to December 31, 1940, the balance of the amount due—namely, £67,000, less an amount of £500 received for the sale of certain patent rights—had been debited to goodwill account, and it was recommended that £16,500, together with the £1 at which patents stand in the company's books, should be written off in this year's accounts. Effect had been given to this recommendation in the accounts and the balances of the goodwill of the Petter engine business appeared in the balance sheet at £50,000.

The directors had had in mind for some time the desirability of improving the capital structure of the company, as, in addition to the preference and ordinary stock, the company had three separate issues of redeemable debenture stock. Since the close of the year negotiations had been concluded whereby the whole of the debenture stock would be redeemed and would be replaced by preference and ordinary stock. This, of course, necessitated the consent of the Treasury, and this had been obtained.

Briefly, the conversion had been carried out as follows: Notice had been given to the 5½ per cent. prior lien debenture stockholders that their stock (amounting to £143,170) would be redeemed on July 31, 1942, the redemption money being provided by the issue for cash at par to Associated British Engineering Limited of 143,170 ordinary shares of £1 each. Further, an offer had been made to the 4½ per cent. redeemable debenture stockholders and the 4½ per cent. redeemable second debenture stockholders whereby their stock (amounting to £141,489) would be redeemed at 102 per cent. either by the issue of £100 5½ per cent. cumulative preference shares of £1 fully paid plus £2 for each £100 nominal amount of debenture stock or by the payment of £102 in cash for each £100 nominal amount of debenture stock; such holders who did not accept either of these offers would be served with notice of redemption at the dates provided in the trust deeds. Here again Associated British Engineering Limited had undertaken to subscribe for at par and pay for such of the 141,489 5½ per cent. cumulative preference shares which are not subscribed for by the 4½ per cent. debenture stockholders.

This conversion would necessitate an increase in the authorised capital of the company, and to provide for this, and to have a margin for future development, the directors recommended the raising of the authorised capital to £1,500,000 by the creation of 500,000 shares of £1 each of no specified class.

Again this year he did not feel it desirable to give a detailed account of the company's various activities, but he assured shareholders that the steady progress of the past year was being maintained.

He concluded by paying tribute to the work of all ranks in the company's organisation. The employees, men and women, in shop and office had laboured strenuously and well throughout the year. The management had been able and enthusiastic and the team work of the executive directors under the inspiring and unflagging leadership of Mr. Good, the managing director, was admirable in every way.

The report was unanimously adopted, and at a subsequent extra-ordinary general meeting the proposed increase in the authorised capital was sanctioned.

Staff and Labour Matters

Signalmen—Rates of Pay

The national agreement as to rates of pay and conditions of service of signalmen, which has been in operation since May, 1922, has been altered by agreement between the railway companies and the National Union of Railwaymen.

The new agreement provides that the distinction between goods and passenger boxes is to be abolished and certain improvements in standard rates of pay are made. The new composite rates, standard rate plus war additions, are as follow :—

Signalmen	London	Industrial	Rural
Special Class	90s.	90s.	90s.
Class 1	85s.	85s.	85s.
,, 2	80s.	80s.	80s.
,, 3	77s.	75s.	74s.
,, 4	73s. 6d.	71s. 6d.	70s. 6d.
,, 5	69s. 6d.	67s. 6d.	66s. 6d.

Slightly higher rates are to be paid to special class signalmen in the very busy boxes. Relief signalmen are to be paid the following rates in all areas :—

Special Class	95s.
Class 1	85s.
,, 2	75s.

When a relief signalman relieves at a post for which the signalman's rate is the same as his own rate, he shall receive an allowance of 5s. a week, or 10d. for each turn of duty. When a relief signalman relieves at a post for which the signalman's rate is higher than his own rate, he shall receive the rate for the post, plus an allowance of 5s. a week, or 10d. for each turn of duty. Where a relief signalman is required to relieve for at least six consecutive turns of duty in a higher class position than that in which he is designed to relieve, he shall be paid at the appropriate higher class relief signalman's rate.

Certain alterations and additions to the marks basis for determining the classification of signalmen are to be made as follow :

Hand Generators

For each operation of a hand generator 5 marks shall be allowed.

Levers Operating more than One Set of Points

In cases where one lever moves more than one set of points, an extra mark shall be allowed. The definition of " one set of points " is four blades or less.

Signal Boxes in Automatic and Semi-Automatic Areas

The marks for work (excluding lever movements) performed in signal boxes in automatic and semi-automatic areas to be :

Through trains	3 marks
Starting trains	1½ ,,
Finishing trains	1½ ,,

These marks are only to be allowed for trains in respect of which bell signals and/or train describers are in operation and are to include diagram reading.

A train passing from an absolute block section to an automatic or semi-automatic section is to be credited as a " finishing train " under the national agreement so far as the block section is concerned, and as a " starting train " so far as the automatic or semi-automatic section is concerned, and *vice versa* in the case of a train passing from an automatic or semi-automatic section to a block section. In addition, one mark is to be allowed for each lever movement.

For each time entry in the train register book in respect of through, starting, or finishing trains at boxes in automatic or semi-automatic areas half a mark is to be allowed.

Operations in Connection with the Working of Permanent Way Motor-Trollies

For the purpose of assessment of marks permanent way motor-trollies shall be regarded as trains.

A.S.L.E. & F. and R.C.A.

Both the Associated Society of Locomotive Engineers & Firemen and the Railway Clerks' Association held their annual conference at Edinburgh this year. The R.C.A. completed its conference during the week ended May 29 and the A.S.L.E. & F. conference, which commenced in the same week, ran into the following week.

The R.C.A., amongst other things, decided to submit a claim to the railway companies for an increase of £26 a year for all the salaried staff.

Amongst the resolutions passed by the A.S.L.E. & F was one for the introduction of a scheme to provide adequate pensions for all railwaymen and another was for better canteen facilities.

Southern Railway Locomotives

"*P. & O.*" *named*

On Thursday, June 4, Sir William C. Currie, Chairman & Managing Director, Peninsular & Oriental Steam Navigation Company, accompanied by Mr. R. Holland-Martin, Chairman, and Mr. E. J. Missenden, General Manager, of the Southern Railway, with other P. & O. and railway officers, visited Ashford for the naming ceremony of the "P. & O." locomotive, the sixth of the new Southern Railway mixed-traffic engines of the "Merchant Navy" class to be named after shipping lines.

Those present included Sir William C. Currie, Chairman & Managing Director, Peninsular & Oriental Steam Navigation Company, and Director, Southern Railway Company; Sir Geoffrey Clarke, Director, Peninsular & Oriental Steam Navigation Company; Mr. G. F. Hot-Mack, Director, Peninsular & Oriental Steam Navigation Company; Mr. F. H. Grosvenor, Mr. W. Mizen, Col. E. A. Ewart, P. & O. Company; Hon. Clive Pearson, Chairman, British Overseas Airways Corporation, and Director, Southern Railway Company; Colonel Eric Gore-Browne, D.S.O., T.D., A.D.C., Deputy Chairman, Southern Railway Company; Mr. William P. Spens, K.C., M.P., Director, Southern Railway Company; Mr. E. J. Missenden, General Manager (S.R.); Mr. O. V. Bulleid, Chief Mechanical Engineer (S.R.); Mr. G. Ellson, Chief Engineer (S.R.); Mr. A. Cobb, Locomotive Running Superintendent (S.R.); Mr. C. Grasemann, Public Relations & Advertising Officer (S.R.); Mr. J. L. Harrington, General Assistant to General Manager (S.R.); Captain P. A. Morgan R.D., R.N.R., Dockmaster, Southampton (S.R.); Mr. P. Nunn, London (East) Divisional Superintendent (S.R.); Mr. D. Sheppy, Eastern Divisional Locomotive Running Superintendent (S.R.); Mr. E. G. Marsden, Railway Executive Committee; Mr. W. J. Shorter, Assistant to Public Relations Officer (S.R.); Mr. M. S. Hatchell, Works Manager, Ashford.

Colonel Eric Gore-Browne, before the nameplate was unveiled, said that the decision of the Southern Railway to name a new type of engine after the great shipping lines was an acknowledgment of the work of the Merchant Navy. The naming of the "P. & O." was somewhat of an intimate ceremony. Sir William Currie, Chairman of that great company—established only 10 years after the opening of the Canterbury and Whitstable Railway—was also a director of the Southern Railway; he was also occupying the wartime position of Head of the Liner Division at the Ministry of War Transport. It had therefore been thought appropriate that the engine should be named in Ashford Works. It gave the opportunity for Sir William Currie to see the work being undertaken in the railway shops only 30 miles or so from the Germans, and also gave the shopmen and women the opportunity of seeing one of the completed engines, for which they had built the tenders.

The engines of the "Merchant Navy" class were the most powerful steam engines so far built for the Southern Railway. Those who had taken part in the construction might feel confident that in the difficult months ahead these engines would take their full share in hauling heavy trains of war freight and service personnel and in their way make an effective contribution to final victory.

Sir William Currie said that Southampton had been the terminal port of the P. & O. from 1840 to about 1873 or 1874, and, although this was then changed to London, the mail steamers continued to call at Southampton on the way to and from London until 1880 or 1881. More recently the P. & O. company had returned to its old love, when its mail vessels for China had called at Southampton every month and the cargo vessels at similar intervals, and cruising vessels in the happy pre-war days were centred on Southampton. For many years, too, twice weekly, outwards and homewards, the Southern Railway to Dover and its cross-Channel steamers to Calais or Boulogne had been a link in the overland route *via* Marseilles to India, Australia and the Far East, a service which carried on uninterruptedly until the Germans broke through in France.

After the ceremony the guests were conducted through Ashford works.

Mr. H. E. Horne and Mr. P. J. Floyd

Presentation from former colleagues

At a meeting of Railway Superintendents and Goods Managers held on June 3, a presentation was made to Mr. H. E. Horne, who recently retired from the position of Assistant Chief Commercial Manager of the London Midland & Scottish Company.

Mr. Perts (Southern Railway, Chairman of the Superintendents' Conference) presided, and referred to Mr. Horne's long and unique railway career which commenced as far back as 1888, and resulted in his attaining the position which he held at the time of his retirement. Mr. Horne had been a member of the Superintendents' Conference since 1935, and of the Goods Managers' Conference since 1938, and his cheerful disposition, long and varied railway experience, and ability, had been of considerable help to the Chairmen and to all his railway colleagues in their deliberations at the various meetings he had attended. Mr. Horne's amicable companionship would be sorely missed by all with whom he had been associated, but it would be remembered by them with gratitude. He added that Mr. Horne had selected an article to place in his home at Frinton as a reminder of his happy railway associations.

The Chairman also referred to the recent retirement of Mr. P. J. Floyd from the position of Traffic Manager of the Great Southern Railways, and to the fact that Mr. Floyd had been a member of the Superintendents' Conference since 1925, and of the Goods Managers' Conference since 1928. His old colleagues had wished to make a presentation to Mr. Floyd, and that gentleman had been approached. He then read a letter received from Mr. Floyd intimating that he would be pleased to accept a gift, and, whilst it would have given him much pleasure to have been able to cross the Channel to receive it in person, existing circumstances made it extremely difficult. Mr. Floyd referred in his letter to the happy recollections he had of his attendances at Clearing House meetings where he had always experienced kindness from all his old colleagues. Mr. Floyd had wished to purchase a piece of furniture for his home as the gift of his late colleagues. Mr. Perts then referred to Mr. Floyd's true Irish brogue and national wit, and stated that, apart from his help at the deliberations of the conferences, his extraordinary hospitality would always be remembered by his old colleagues. They offered Mr. Floyd their good wishes for his future health and happiness.

Mr. Argile (L.M.S.R.) said that the Goods Managers had pleasure in associating themselves with the presentations and endorsed the remarks of the Chairman as to both Mr. Horne and Mr. Floyd. He personally wished his old assistant good luck and happiness in the future.

Mr. Ashton Davies (Vice-President, L.M.S.R.) said he felt it a privilege to be able to pay his personal tribute to Mr. Horne and Mr. Floyd, who had been always good colleagues, and he wished them well. He referred to the great services Mr. Horne had rendered to his company both from operating and commercial aspects, and to the great affection and regard he and all his colleagues had for him.

Mr. Gibson (L.N.E.R.) also spoke, and letters were read from Mr. Selway and others who were unable to be present, but who desired to convey their good wishes to Mr. Horne and Mr. Floyd.

Mr. Perts then asked Mr. Horne to accept a cheque with the best wishes of his old railway colleagues, and stated that a cheque would also be sent to Mr. Floyd with a suitable letter.

Mr. Horne, in accepting the cheque, thanked the Superintendents and Goods Managers for the sentiments expressed, and said the article he was purchasing would be placed in a prominent position in his house and always be a treasured memory of his old colleagues, with whom it had always been a pleasure to work. He particularly thanked Mr. Ashton Davies for being present and for the kind words he had spoken.

Questions in Parliament

Corran Motor Car Ferry

The Secretary of State for Scotland has not previously received any representations on the subject of the ferry at Corran, which already belongs to the County Councils of Argyll and Inverness and is run under the supervision of a joint committee of these councils. On inquiry, I am informed that the joint committee is considering future arrangements, in the light of recent difficulties. (Mr. J. Westwood, Joint Under Secretary of State for Scotland, June 2.)

Alternative Fuel

I regret that it has been decided not to make public the report of Lord Henley's Committee on substitute fuels. (Mr. David Grenfell, Secretary for Mines, June 2.)

Railway Passenger Services

The unavoidable reduction of railway passenger services necessarily entails some discomfort and inconvenience, but I am not aware that any serious interference with production is resulting. (Mr. P. J. Noel-Baker, Joint Parliamentary Secretary-Ministry of War Transport, June 2.)

Parliamentary Notes

Indian Railway Bill

The House of Commons on June 2 agreed to the Lords Amendments to the Bombay, Baroda & Central India Railway Bill.

Railway Companies Bill

The Railway Companies (Thos. Cook & Son Ltd. Guarantee) Bill was read a third time, and passed, without amendment, in the House of Commons on June 2.

G.W.R. Centenary of Royal Travel

June 13, 1842-1942

A hundred years ago—on June 13, 1842—Queen Victoria made her first rail journey by G.W.R. Special Train from Slough to Paddington.

The company had news of Her Majesty's wishes only on the previous Saturday afternoon, June 11—short notice for a Command Performance without precedent—but the directors were prepared. Confident that the Queen would soon become a rail patron, they had had a Royal Saloon ready for two years; they had tried it out twice—first to take the Dowager Queen Adelaide from Wallingford to Slough, and again when King Frederick William of Prussia was staying at Windsor for the christening of the young Prince of Wales and wanted a day's sightseeing in London.

THE FIRST "QUEEN'S CARRIAGE"

This first Royal Saloon, then known as the "Queen's Carriage," rather resembled a large posting carriage slung inside the four wheels. After the Dowager Queen had used it, however, the directors discussed means of improving it. Isambard Kingdom Brunel, the company's Engineer, advised the transfer of the body to a low frame with eight wheels. The remounted saloon was probably the first 8-wheel carriage in the country.

CEREMONIAL AT SLOUGH

The Royal train stood ready in Slough Station well before Monday noon—the engine *Phlegethon* (a 7 ft. single), an open second class carriage with brakes, the Queen's Carriage between two other saloons, and three carriage trucks to carry to London the attendants' road conveyances.

Hours before departure time the Royal Master of the Horse appeared at the station. He felt it his responsibility to examine minutely every point of the steed from the Great Western stable. The Royal party arrived just before noon, to be met by the Chairman of the G.W.R. (Mr. C. Russell), the Secretary (Mr. C. A. Saunders) and a director (Mr. F. P. Barlow). While the attendants' carriages were being loaded on the trucks the Queen inspected the line and her saloon.

The train drew out on the stroke of noon with the Locomotive Superintendent Daniel Gooch driving and Brunel, the Engineer, on the footplate with him. Also on the footplate was the Queen's Coachman. He insisted on riding with Gooch and Brunel on the engine to supervise their driving. Unhappily his scarlet livery got so badly begrimed before he reached Paddington that he waived all claim to a place on the footplate on subsequent trips.

LOYAL PILGRIMAGE TO PADDINGTON

Meanwhile all London seethed with excitement. Long before noon the crowd gathered to welcome the Queen gave Paddington and its approaches the air of a Royal levee. Exactly at twenty-five minutes past noon *Phlegethon* steamed into Paddington Station bringing the most eminent passenger of the century. There was a breathless hush of expectancy; then the door swung open and the Prince Consort stepped out. In the doorway was framed for an instant the First Lady in the land, a Queen a bare twenty-three summers young. At the first glimpse of her there arose a thunderclap of cheering as to startle the very birds out of their trees in Paddington Green.

The whole route from the station to the Palace was thronged to see the Royal entourage pass. From beginning to end the reception fitly honoured that memorable hour in which the Queen opened a new and brilliant chapter in the history of a great railway—indeed, in the history of transport.

The Queen enjoyed her first railway journey and thanked the Officers most charmingly for their successful arrangements. As further proof of her pleasure she chose the same mode of travel when she returned to Windsor six weeks later, taking with her the young Prince of Wales, then only eight months old. Before long she had become so frequent a rail traveller between London and Windsor that the Great Western Railway earned an honorary title which clings to it to this day: "THE ROYAL ROAD."

NOTES AND NEWS

Canada-Alaska Railway.—The Canadian and U.S.A. Governments have agreed on a survey by American engineers to determine the possibility of a railway from North-Western Canada to Alaska.

North British Locomotive Co. Ltd.—The directors announce payment of 4½ years' dividend arrears on the 5 per cent. cumulative preference stock. This payment will clear off the balance of arrears up to December 31, 1941.

Home Railway Dividend Dates.—It is understood that as at present arranged the interim dividend announcements of the four main-line railway companies will be made on the following dates: G.W.R. July 24, L.M.S.R. July 30, L.N.E.R. July 24, S.R. July 23.

Bengal & North Western Railway Co. Ltd.—The directors announce the payment on July 27 of an interim dividend of 6 per cent., plus a bonus of 4 per cent., making a total distribution of 10 per cent., less tax at 5s. 3d. on the ordinary stock, compared with 8 per cent. (4 per cent. dividend and 4 per cent. bonus).

Swiss Railway Museum.—In 1947 the Swiss Federal Railways will celebrate their centenary, and to celebrate the occasion the small railway museum at Zurich Goods Station will be enlarged and transferred to a new building. An illustrated history of the Swiss Federal Railways will be published also.

Leopoldina Railway Co. Ltd.—Holders of the 4 per cent. debenture stock on the register on June 3, 1942, will receive on July 1 interest at 4 per cent., less tax, in respect of the year ended December 31, 1938. A payment of 2 per cent. actual, less tax, was made on June 1, 1942, in respect of the six months ended December 31, 1937.

Barcelona Metropolitan (Transversal).—The report of the F.C. Metropolitano de Barcelona (Transversal) for 1940 shows that 32,950,449 passengers were carried in that year, compared with 24,130,139 in 1939. The receipts, amounting to 5,081,900 pesetas, compared with 3,611,948 pesetas. The operating ratio was 57·09 per cent. against 62·38 per cent.

Institution of Railway Signal Engineers.—A summer evening meeting for members and their friends will be held at the Holborn Restaurant, London, W.C., on June 19. The President, Mr. J. Boot, will be in the Chair at a dinner which will commence at 6 p.m. On June 24, a meeting of the Institution will be held at the Institution of Electrical Engineers, Victoria Embankment, W.C.2, when trends of modern signalling will be discussed.

Snowdon Mountain Railway.—This well-known steam-operated Abt rack railway, the only one of its kind in Great Britain, was reopened on Wednesday, May 20, and the directors have decided to continue the services throughout the summer, with at least two trains daily (including Sundays), weather and other

British and Irish Railway Stocks and Shares

Stocks	Highest 1941	Lowest 1941	Prices May 29, 1942	Prices Rise Fall
G.W.R.				
Cons. Ord.	43⅜	30⅜	45½	+ 1
5% Con. Pref. ...	109½	83½	110½	— 1
5% Red. Pref. (1950)	105½	96½	107	— 1
4% Deb.	113⅜	102½	110½	— 1
4½% Deb.	115	105¾	112½	— 1
4½% Deb.	121½	112	120½	— 1
5% Deb.	132	122	133	—
2½% Deb.	70	62½	73	—
5% Rc. Charge ...	129½	116	130½	— 2
5% Cons. Guar. ...	128	110½	127½	— 2
L.M.S.R.				
Ord.	17½	11	19¾	—
4% Pref. (1923) ...	53	33½	55	—
4% Pref.	68½	48½	72½	—
5% Red. Pref. (1955)	97⅜	77	100½	—
4% Deb.	105½	97	105	— 1
5% Red. Deb. (1952)	110½	106½	109½	—
4% Guar.	100	85½	101½	—
L.N.E.R.				
5% Pref. Ord. ...	3⅜	2⅜	4½	+ ⅛
Def. Ord.	2	1⅛	2½	+ ⅛
4% First Pref. ...	52½	33	53	— 1
4% Second Pref. ...	19⅜	10	21½	—
5% Red. Pref. (1955)	79½	52	89	—
4% First Guar. ...	90½	74½	94½	—
4% Second Guar. ...	80½	59	85½	— 2
3% Deb.	79½	68½	80	— 1
4% Deb.	104	91½	105	—
5% Red. Deb. (1947)	106	102½	104	—
4½% Sinking Fund Red. Deb.	103½	99½	104½	+ 1
SOUTHERN				
Pref. Ord.	65½	43½	64½	—
Def. Ord.	15⅝	9	16	+ ⅛
5% Pref.	107	77½	108½	— 1
5% Red. Pref. (1964)	107	89½	108½	—
5% Guar. Pref. ...	128	111	127½	— 2
5% Red. Guar. Pref. (1957)	114½	107½	113½	— 1
4% Deb.	112	102½	108½	— 1
5% Deb.	130½	119	132	—
4% Red. Deb. (1962–67)	108½	102	109½	—
4% Red. Deb. (1970–80)	108⅜	102½	109½	—
FORTH BRIDGE				
4% Deb.	99⅜	90½	104½	—
4% Guar.	99	85½	104½	—
L.P.T.B.				
4½% "A"	120½	109½	117½§	— 2
5% "A"	130½	115½	127½§	— 2
4½% "T.F.A." ...	103½	99½	100§	— 2
5% "B"	117	102	116½	—
"C"	46½	28½	40½	—
MERSEY				
Ord.	24½	19½	19½	— 1½
4% Perp. Deb. ...	100	90	100	—
3% Perp. Deb. ...	73½	63	78	—
3% Perp. Pref. ...	58	51½	58	—
IRELAND				
BELFAST & C.D.				
Ord.	4	4	9	—
G. NORTHERN				
Ord.	14½	3	20½	+ ½
G. SOUTHERN				
Ord.	14½	5	21	—
Pref.	17	10	18½	+ 2½
Guar.	44	16	37	— 1
Deb.	61	42	61½	— 1½

§ex dividend

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OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is 9.30 a.m. on the preceding Monday. All advertisements should be addressed to:—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

circumstances permitting. The summit hotel is also open. The line is 5 miles long, of 2 ft. 7½ in. gauge.

Road Accidents in April, 1942.—The return issued by the Minister of War Transport of the number of persons reported to have died or to have been injured as a result of road accidents in Great Britain during the month of April last shows 565 deaths (compared with 726 in April, 1941), 3,032 seriously injured (compared with 3,508 in April, 1941), and 8,143 slightly injured (compared with 10,642 in April, 1941).

G.W.R. Aid to Paper Salvage.—The audit section of the Chief Accountant's Department of the G.W.R. has disposed of seven tons of paper for salvage purposes. In addition, 1,100 reams of paper, which had been used on one side only, have been re-claimed for further use as letter paper and so forth, and over ten tons of covers have been stripped from bound volumes of accounts and books, and passed to the Stationery Department for further use.

Great Southern Railways (Eire).—For the 21st week of 1942 the Great Southern Railways (Eire) report passenger receipts of £32,369 (against £34,704), and goods receipts of £55,258 (against £51,436), making a total of £87,627 (against £86,140) for the corresponding period of the previous year. The aggregate receipts to date are passenger £675,407 (against £745,146), goods £1,268,258 (against £1,069,012), making a total of £1,943,665 (against £1,814,158).

Canadian Pacific Railway.—Gross earnings for April, 1942, were $20,622,000, an increase of $3,967,000, and expenses were $17,066,000, or $3,560,000 higher. Net earnings at $3,556,000 were $407,000 more than for April, 1941. For the first four months of 1942 gross earnings amounted to $78,267,000, an increase of $16,200,000, and the net earnings of $13,540,000 were $1,870,000 greater than for the first four months of 1941.

Owner's Risk at Docks.—An accident at Hull docks whereby a mobile arc-welding apparatus was damaged led to a claim by the owners of the apparatus against the L.N.E.R. Company for damages for negligence. In the agreement between the parties there was a clause which provided that the apparatus whilst on the railway company's premises should be at owners' risk and responsibility. The construction of this clause on June 2 came as a preliminary point before Mr. Justice Atkinson in the King's Bench Division. Counsel for the plaintiff company contended that the clause did not protect the railway company against liability for negligence. The Judge held that the words meant what they said, and the railway company was not liable for whatever happened as the result of negligence. It was not an unreasonable attitude to take in a dangerous place like a dock.

Henry Spurrier Memorial.—Mr. E. S. Shrapnell-Smith, Chairman of the appeal committee for the Henry Spurrier Memorial Fund, has already received some £8,135 towards the £10,000 required to establish the memorial. The object of the memorial is essentially educational, and the scholarship will enable young men in the transport industry to make a study of the development side of road motor transport. The Institute of Transport is to undertake the administration of the memorial and Messrs. Joynson-Hicks & Company, Honorary Solicitors to the Institute, are drawing up a suitable trust deed. Mr. Henry Spurrier was Managing Director of Leyland Motors Limited; he died on March 4 last.

Beyer, Peacock & Co. Ltd.—The profit and loss account for the year 1941 shows that the balance from trading account after making provision for contingencies was £75,387 (£75,267) and the gross profit was £81,045 (£79,069). After debenture interest and other charges and appropriating £13,500 (£12,750) to reserve for depreciation there is a net profit of £51,283 (£53,377), but the net profit for 1941 is subject to a provision of £75,000 for E.P.T. from April 1, 1939, to December 31, 1941, and this reduces the carry forward on profit and loss account from £99,571 to £51,104. Further arrears of preference dividend were paid in July, 1941, and January last, and were maintained at the same rate as in 1940. In January, 1942, preference shareholders received a further full year's dividend, bringing the payment up to June 30, 1934.

Brush Electrical Engineering Co. Ltd.—After the annual general meeting of the company, Sir Ronald Matthews, Chairman, addressed a meeting of employees and explained the finances of the company to it. Sir Ronald Matthews said that he and his colleagues felt that it was important, and would become increasingly so, that everyone concerned in the business of the company should have a clear picture of what was going on and why it was going on. He went on to illustrate by means of coloured charts how the income of the company was allocated. Sir Ronald added that his company was rightly interested in the development of international trade, for under normal conditions the great part of its output went overseas. It would be necessary to get international trade flowing as strongly and rapidly as possible after the war. The meeting is an innovation and it is proposed to hold it every year.

The Barbados Government Railway.—Barbados, the most easterly of the West Indian islands, has an area of 166 square miles, and a population of 190,939. There is now no public railway on the island. Until the year 1937 there was the Barbados Government Railway, which connected Bridgetown with St. Andrews. This railway, 24 miles in extent, on the 3-ft. gauge, was built by private enterprise in 1882, and was originally constructed as a broad-gauge line. In 1902 it was converted to narrow gauge, but it handled comparatively little traffic, and in 1915 the company failed. In 1916 the railway was bought by the Barbados Government, for £60,000 and reopened to traffic. It was operated by the Government until October, 1937, when working was stopped and the line and equipment sold for scrap.

Road Motors in Brazil.—The total of motor vehicles in operation in all Brazil on January 1, 1942, is estimated at 184,254 (not including motorcycles), an increase of 10,254 over the number in use on January 1, 1941. Of these, 40 per cent. are in operation in the State of San Paulo, 21 per cent. in the Federal District (City of Rio de Janeiro), 10 per cent. in the State of Minas Geraes, and 10 per cent. in the State of Rio Grande do Sul. It is estimated that 90 per cent. of the passenger motorcars operating in Brazil are low-priced vehicles, and about 89 per cent. of the lorries are between 1-ton and 1½-ton capacity. Details are as follow:—

Item	Total	U.S.A. makes
Passenger cars	113,228	101,905
Buses:		
Petrol	4,898	4,702
Diesel	500	125
Lorries:		
Petrol	65,250	62,740
Diesel	378	83
Trailers	600	576
Motorcycles and 3-wheel vehicles	3,546	354

Contracts and Tenders

The Peruvian Corporation has increased the number of consolidation type locomotives on order with Beyer Peacock & Co. Ltd. from three to ten.

The following orders have been placed to the inspection of Messrs. Wolfe Barry, Robert White & Partners:—

South Indian Railway: 450 life jackets from Fosbery & Company.

Gondal Railway: 3,500 steel ferrules from the Patent Ferrule Co. Ltd.

The Canadian Pacific Railway has placed orders for a total of 900 freight wagons. Of these 500 are 40-ton steel box wagons, which the Canadian Car & Foundry Company will build. 200 are 50-ton steel box wagons, and 150 70-ton ore wagons, which will be built by the National Steel Car Corporation; 50 are 50-ton steel box wagons, which will be built by the Eastern Car Co.

Railway Stock Market

Sentiment in the stock and share markets has shown continued response to the war news, and, at the time of writing, there has been a further upward movement in values, accentuated by the scarcity of stock in the market. The higher prices have been followed again by very little selling, and all classes of securities have remained firmly held. Home railway stocks attracted increased attention, and there was a certain amount of speculative buying on the possibliity of improvement in the interim dividend decisions, expected towards the end of next month. As was mentioned here last week, in some quarters of the market the view is held that the interim payment on Great Western ordinary may be increased from 1½ per cent. to 2 per cent., and that there may be interim payments on L.M.S.R. ordinary, Southern deferred, and also on L.N.E.R. second preference. It should be pointed out, however, that in many quarters the view prevails that interim dividend decisions will probably be the same as a year ago, and that there are doubts as to whether higher total payments for 1942 will be possible under the rental agreement, except, perhaps, in the case of L.N.E.R. second preference. The increased attention given to home railway junior issues arises in part from the substantial yields obtainable which must be considered as generous bearing in mind all factors, including the fact that there is no other group of equity securities, whose dividend outlook during the war period appears to be as clearly defined. L.M.S.R. ordinary still yields around 10 per cent., and L.N.E.R. second preference around 11 per cent., and the yield on Southern deferred is not far short of the latter. Southern 5 per cent. preferred yields nearly 7¾ per cent., and the maintenance of the full dividend during the period of the war appears to be virtually assured. The interim on the latter, of course, is expected to be kept at 2½ per cent. Yields of over 7 per cent. are also obtainable on L.N.E.R. first preference and on L.M.S.R. 1923 preference; their excellent merits as a wartime investment should apparently attract increasing attention, bearing in mind the indications that, over a period, there is likely to be a general movement to lower yields on all classes of securities. It must, however, be expected that markets will be dominated almost entirely by the war news, and that prices will fluctuate sharply from time to time. In some cases home railway prior charges have moved down slightly, but they remained firmly held, and the lower prices were attributed to a somewhat decreased demand for the time being; main attention has centred this week on the junior securities. In various instances foreign railway stocks recorded further gains on balance, but the upward movement was less marked than last week, as the view prevailed that various ordinary and preference stocks of Argentine railway companies probably would discount the scope for improved traffics in the more immediate future. Debenture stocks were very firm.

Compared with a week ago, Great Western ordinary has further advanced from 44¾ to 46¼ at the time of writing. L.M.S.R. ordinary moved up from 19½ to 20⅛ during the same period. On the other hand, Great Western preference reacted slightly, and L.M.S.R. 1923 preference was half-a-point down at 54½, as was this railway's senior preference at 72½. L.N.E.R. first preference was unchanged on balance at 54; the second preference improved from 21½ to 21¾. Whereas Southern deferred rallied from 15⅝ to 16¾, the preferred has remained at 65. London Transport "C" was again 40½.

In other directions, Antofagasta preference moved higher, and Nitrate Rails were better, but Leopoldina issues eased slightly following their recent rise. San Paulo at 54 was again higher on balance. Indian railway stocks showed further gains, and Canadian Pacific issues were better.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open 1941–42	Week Ending	Traffic for Week: Total this year	Traffic for Week: Inc. or Dec. compared with 1941	No. of Weeks	Aggregate Traffics to date: Totals: This Year	Aggregate Traffics to date: Totals: Last Year	Aggregate Traffics to date: Increase or Decrease	Shares or Stock	Prices: Highest 1941	Prices: Lowest 1941	Prices: June 5, 1942	Yield% (See Note)
South & Central America	Antofagasta (Chili) & Bolivia	834	31.5.42	£ 27,120	+ £ 2,730	22	£ 464,910	£ 387,520	+ £ 77,390	Ord. Stk.	10⅜	3⅛	10¼	Nil
	Argentine North Eastern ...	753	30.5.42	ps. 226,800	+ ps. 35,500	48	ps. 8,655,200	ps. 6,834,500	+ ps.1,820,700	,,	4	1	5	Nil
	Bolivar	174	Apr.,1942	4,330	+ 418	17	18,485	14,932	+ 3,526	6 p.c. Deb.	5	5	8⅛	Nil
	Brazil	—	—	—	—	—	—	—	—	Bonds	8	2⅛	13	Nil
	Buenos Ayres & Pacific ...	2,801	30.5.42	ps. 1,575,000	+ ps. 37,000	48	ps. 70,171,000	ps. 68,963,000	+ ps.1,208,000	Ord. Stk.	7⅛	1¼	5	Nil
	Buenos Ayres Great Southern	5,080	30.5.42	ps. 2,348,000	+ ps. 99,000	48	ps.117,311,000	ps.107,073,000	+ ps.10,238,000	Ord. Stk.	10⅜	3¼	8⅛	Nil
	Buenos Ayres Western ...	1,930	30.5.42	ps. 962,000	+ ps. 4,000	48	ps. 41,261,000	ps.37,888,000	+ ps.3,373,000	,,	9	2½	7¼	Nil
	Central Argentine	3,700	30.5.42	ps. 1,923,600	+ ps. 91,600	48	ps. 84,340,700	ps.78,867,600	+ ps.5,473,100	,,	8½	2⅛	6½	Nil
	Do	—	—	—	—	—	—	—	—	Dfd.	2½	½	3½	Nil
	Cent. Uruguay of M. Video...	972	23.5.42	26,910	— 2,120	47	1,189,290	1,086,523	+ 102,767	Ord. Stk.	9¼	1	6½	Nil
	Costa Rica	262	Apr., 1942	11,546	— 9,613	42	212,569	198,897	+ 13,672	Stk.	15½	11½	13	Nil
	Dorada	70	Apr., 1942	14,180	+ 1,680	17	47,664	49,200	— 1,536	1 Mt. Db.	97	97	90½	6§
	Entre Rios	808	30.5.42	ps. 301,200	+ ps. 50,300	48	ps. 12,473,200	ps.10,129,000	+ ps.2,308,200	Ord. Stk.	6½	½	6	Nil
	Great Western of Brazil ...	1,030	30.5.42	9,300	+ 2,000	22	222,200	215,200	+ 7,000	Ord. Sh.	11/-	1/-	¾	Nil
	International of Cl. Amer. ...	794	Apr.,1942	$100,091	— $36,249	16	$613,915	$429,516	+ $184,399	—	—	—	—	—
	Interoceanic of Mexico ...	—	—	—	—	—	—	—	—	1st Pref.	⅜	6d.	½	Nil
	La Guaira & Caracas...	22¼	May,1942	5,965	+ 730	21	32,133	30,145	+ 1,988	—	—	—	—	—
	Leopoldina	1,918	16.5.42	28,212	+ 5,312	20	581,976	464,995	+ 116,981	Ord. Stk.	4	½	5¼	Nil
	Mexican	483	31.5.42	ps. 430,100	— ps. 113,600	22	ps. 7,436,300	ps. 6,883,600	+ ps. 552,500	,,	⅜	¼	¾	Nil
	Midland of Uruguay ...	319	Apr.,1942	13,856	+ 1,640	41	136,984	120,202	+ 16,782	—	—	—	—	—
	Nitrate	386	31.5.42	8,891	+ 4,218	21	63,766	42,957	+ 20,809	Ord. Sh.	66⅜	1¼	3 7/16 §	3 11/16
	Paraguay Central	274	30.5.42	$3,493,000	— $1,200,000	48	$171,814,000	$158,055,000	+ $13,759,000	Pr. Lt. Stk.	43/-	29	45½	13 7/16
	Peruvian Corporation ...	1,059	May, 1942	81,005	+ 17,967	47	833,448	709,504	+ 123,944	Pref.	6½	1⅛	11½	Nil
	Salvador	100	Mar, 1942	c 126,000	+ c 16,000	37	c 782,172	c 617,683	+ c 164,489	—	—	—	—	—
	San Paulo	153½	24.5.42	39,882	+ 395	21	731,021	751,864	— 20,834	Ord. Stk.	52	24½	53	3¾
	Taltal	160	Mar.,1942	3,900	+ 1,270	39	39,015	25,140	+ 13,875	Ord. Sh.	1	6/-	1½	Nil
	United of Havana	1,346	31.5.42	32,738	+ 8,205	48	1,523,539	1,171,335	+ 352,204	Ord. Stk.	2½	½	3	Nil
	Uruguay Northern	73	Apr.,1942	980	— 41	41	12,070	11,329	+ 741	—	—	—	—	—
Canada	Canadian National	23,562	31.5.42	1,799,200	+ 35,000	22	27,525,200	23,214,600	+ 4,310,300	—	—	—	—	—
	Canadian Pacific	17,139	31.5.42	1,337,800	+ 25,000	22	19,957,800	16,268,800	+ 3,689,000	Ord. Stk.	13 7/16	7⅛	10	Nil
India†	Barsi Light	202	Mar.,1942	15,570	— 390	52	165,217	167,280	— 2,063	—	—	—	—	—
	Bengal & North Western ...	2,090	Apr., 1942	273,450	— 7,592	4	273,450	281,042	— 7,592	Ord. Stk.	345	253	350½	5⅛
	Bengal-Nagpur	3,267	10.3.42	263,175	— 127	50	9,354,150	8,504,657	+ 849,493	,,	101	95⅜	96⅝	4 7/16
	Madras & Southern Mahratta	2,939	20.3.42	218,025	+ 5,634	51	7,085,480	6,050,718	+ 1,034,762	,,	105 7/16	101¼	99⅝	7 7/16
	Rohilkund & Kumaon ...	571	Apr.,1942	60,600	— 8,602	4	60,600	69,202	— 8,602	,,	342	290	352	4 7/16
	South Indian	2,402	31.3.42	190,120	+ 43,235	52	5,358,080	4,609,099	+ 748,981	,,	100	87	95	3 11/16
Various	Beira	204	Mar.,1942	85,419	—	26	453,891	—	—	—	—	—	—	—
	Egyptian Delta	607	28.3.42	8,235	+ 2,841	49	315,364	224,034	+ 91,330	Prf. Sh.	1¼	29/-	2½	Nil
	Manila	—	—	—	—	—	—	—	—	B. Deb.	68	45	30	11 11/16
	Midland of W. Australia ...	277	Mar., 1942	18,589	+ 3,992	33	177,484	134,200	+ 43,284	Inc. Deb.	90½	85½	89½	6 7/16
	Nigerian	1,900	28.2.42	97,375	+ 29,933	47	2,894,620	2,124,026	+ 770,594	—	—	—	—	—
	Rhodesia	2,442	Mar., 1942	505 912	—	26	2,879,180	—	—	—	—	—	—	—
	South Africa	13,291	18.4.42	779,751	+ 81,555	3	2,005,219	1,841,784	+ 163,435	—	—	—	—	—
	Victoria	4,774	Jan., 1942	1,301,285	+ 378,792	29	7,938,536	6,547,339	+ 80,660	—	—	—	—	—

Note. Yields are based on the approximate current prices and are within a fraction of ⅛ Argentine traffics are given in pesos
† Receipts are calculated @ 1s. 6d. to the rupee § ex dividend